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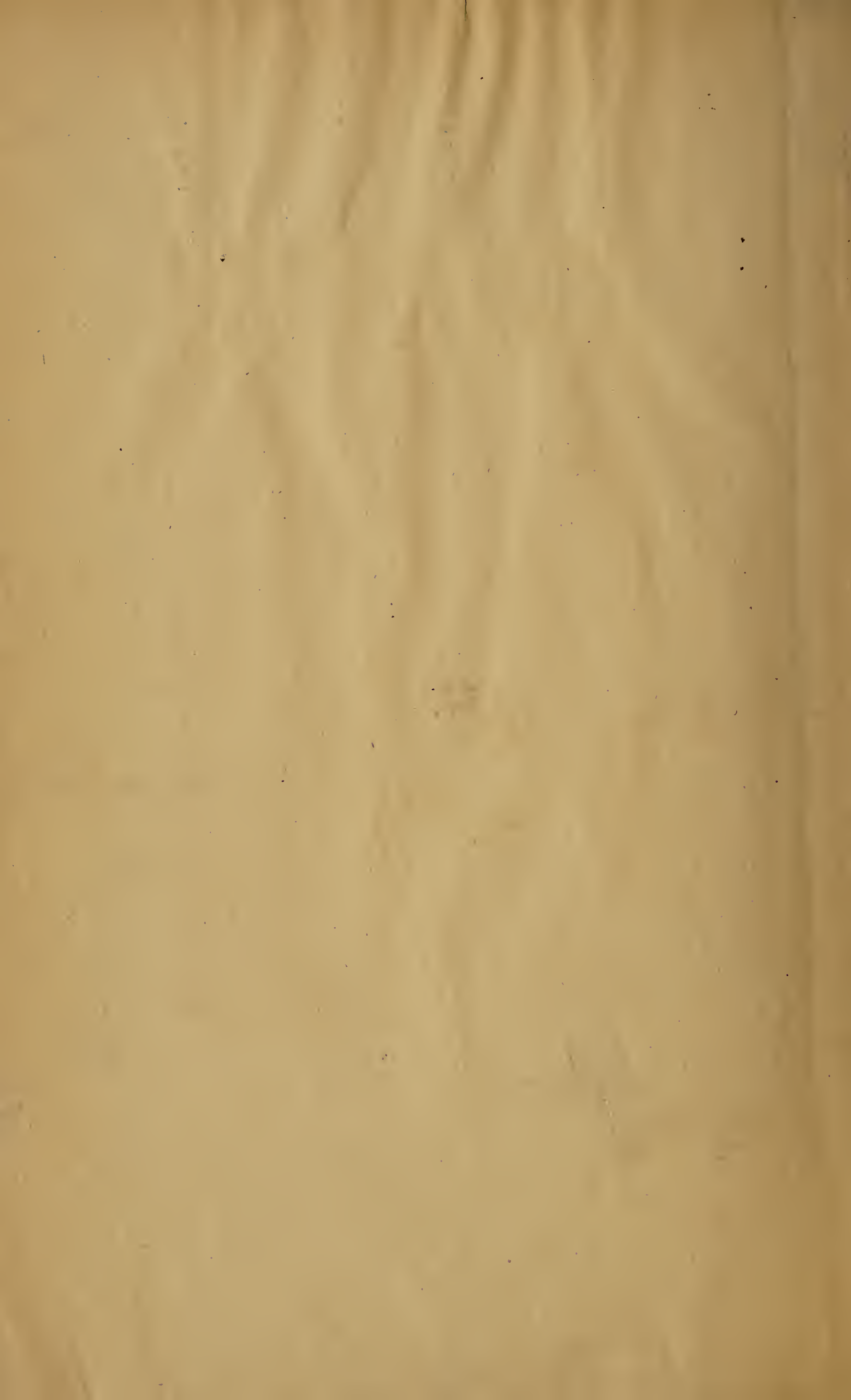
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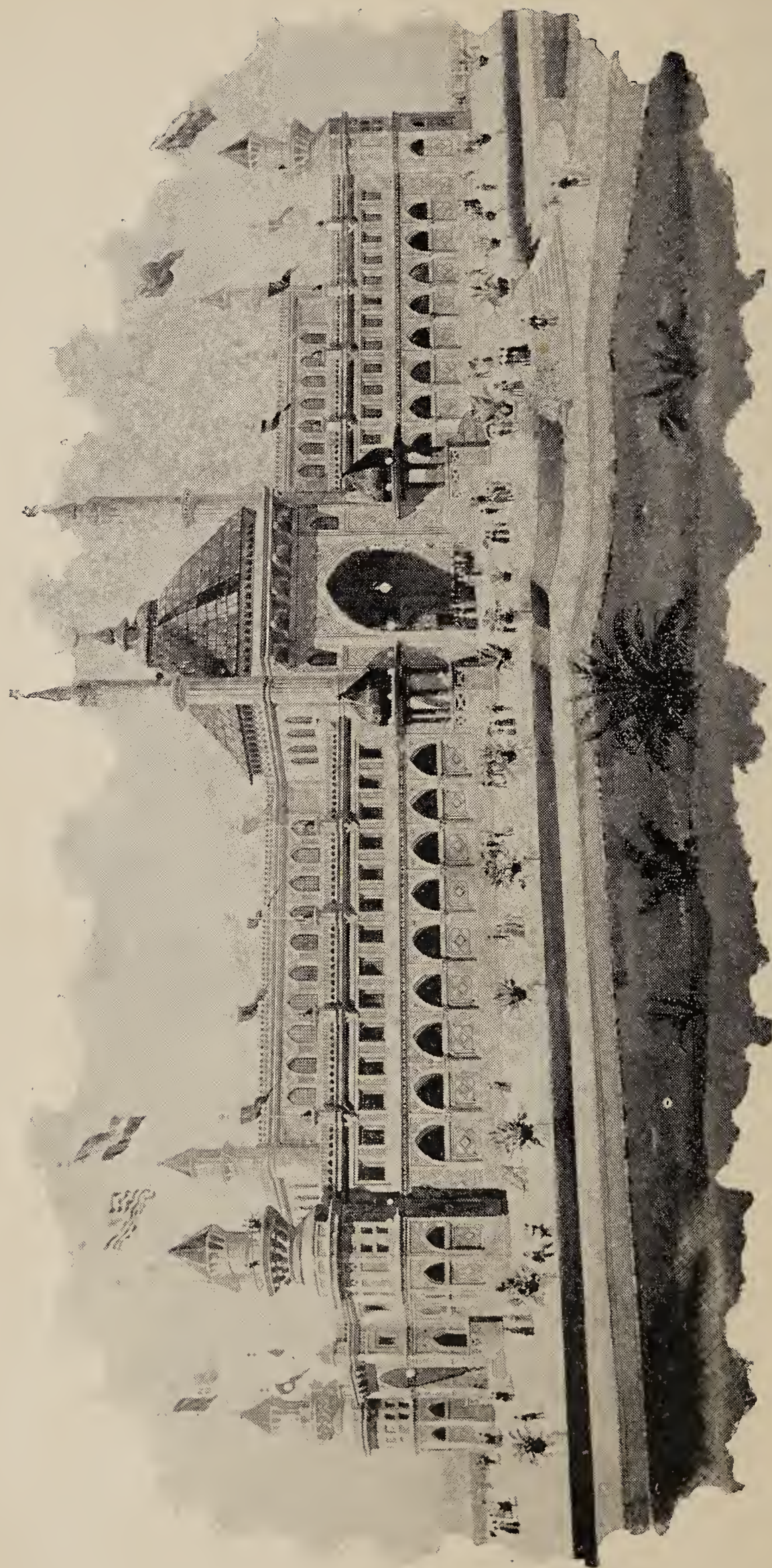


4474.239  
*HEALTH,  
PLEASURE  
AND PROFIT.*



WHY YOU SHOULD GO THERE.





MECHANICAL ARTS BUILDING, CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.



CALIFORNIA

FOR

4474,239

HEALTH,

PLEASURE

AND PROFIT.



Why You Should Go There.



PUBLISHED BY THE  
PASSENGER DEPARTMENT OF THE SOUTHERN PACIFIC COMPANY,  
SAN FRANCISCO, CAL.



Dr. Bowditch.

Nov. 6, 1895.

## CALIFORNIA.

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CARRIE STEVENS WALTER.

THE old Pacific harshly calls to Mendocino's shore,  
But sighs at Santa Barbara's feet his love song o'er and o'er ;  
The giant redwoods greeting send to orange, fig and lime,  
And Siskiyou holds out a cup for wine of Anaheim.

Proud Shasta's snow-crowned head looks out to St. Helena's base,  
Where Napa's vine-wrought glory smiles in fair Sonoma's face ;  
Mount Hamilton reads reverently the mysteries of the skies,  
Where San Jose's wide valley-sweep in fruited richness lies.

Armed Alcatraz stands sentinel beside the Golden Gate,  
Beyond whose portals Farallones, like threatening shadows, wait ;  
The commerce of the world steals by, unchallenged, day by day,  
But Tamalpais counts every ship in San Francisco Bay.

Across the San Joaquin's broad reach of vines and waving wheat,  
The old Sierras pour their gold to San Diego's feet ;  
And northern pine and southern palm woo sea-winds from the west,  
While over all a spirit broods of romance and unrest.

The rose entwines the orange-tree, the sea-winds rock the pines,  
And wheat-sheaves lift their golden heads amid the clustering vines ;  
The latest glow of sunset still enfolds them evermore,  
While Strength and Beauty stand hand clasped upon this Western shore.



## PREFACE.

**T**HE OBJECT of this book is to set forth, in as few words as possible, the inducements which California offers to three great classes of persons.

FIRST: Those who find pleasure in seeing the beautiful and majestic creations of Nature, and in observing the strange and picturesque pursuits of a people.

SECOND: Those whose health might be improved by residence in a healthful and pleasant semi-tropical climate, reinforced by medicinal springs, hot and cold, of every variety.

THIRD: Those who wish to better their material condition by engaging in new, delightful, easily learned and profitable pursuits, in which the hard conditions imposed by competition in the older industries are practically unknown.

Hence the sightseer, the healthseeker and the homemaker will find herein many things that will interest and instruct them. The Southern Pacific Company, which issues this book, has aimed to make it absolutely reliable; it could not afford and it does not desire to do otherwise. Nevertheless, the conditions in California are so strange to the experience of non-residents; the natural wonders are so peculiar and many of them so splendid; the climate and medicinal springs have worked so remarkable cures; and many of the industrial pursuits have yielded profits so large, and the work in itself is so pleasant and fascinating,—that even the simplest statement of the truth sounds incredible to strangers.

For these reasons the greatest moderation has been practiced in the preparation of these pages. The best that might truthfully have been written is omitted.

In space so limited it is impossible to give all the information that might be desired. To supply this defect the SOUTHERN PACIFIC COMPANY has ample facilities for furnishing any particular information to those who will seek it. Letters of inquiry addressed to any of the Company's agents named on the last page of the cover, and particularly to the General Passenger Agent at San Francisco, will receive prompt and intelligent attention.



No map of California drawn upon the scale presented herewith can be expected to give any adequate conception of the State; but taken in connection with the comparative area map on page 8, with its accompanying foot-note, it may serve to fix in the mind its great proportions, topography, etc.

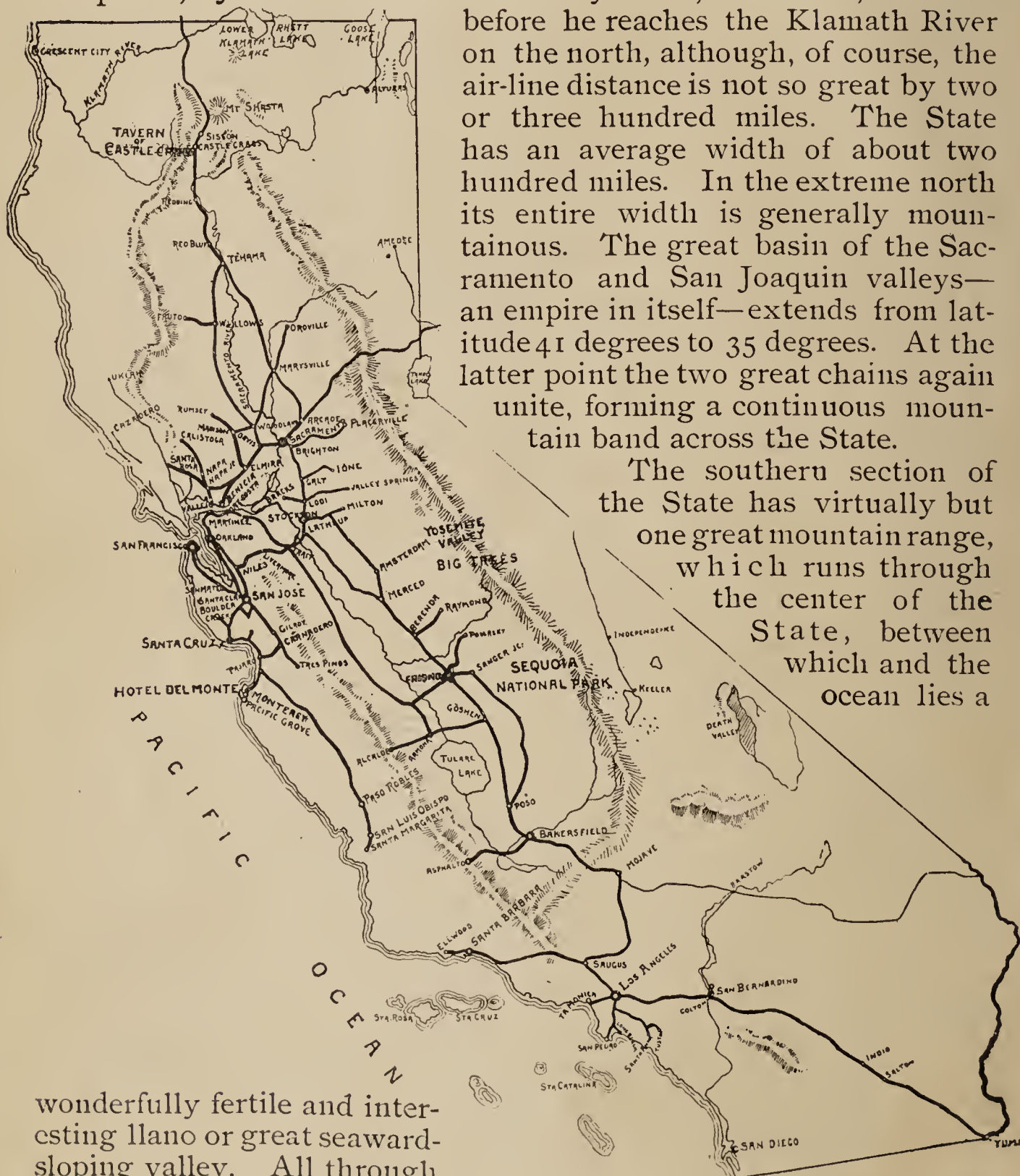
The traveler, upon entering the State at Yuma on the south, is compelled, by the shortest route he may select, to travel 1,008 miles

before he reaches the Klamath River on the north, although, of course, the air-line distance is not so great by two or three hundred miles. The State has an average width of about two hundred miles. In the extreme north its entire width is generally mountainous. The great basin of the Sacramento and San Joaquin valleys—an empire in itself—extends from latitude 41 degrees to 35 degrees. At the latter point the two great chains again unite, forming a continuous mountain band across the State.

The southern section of the State has virtually but one great mountain range, which runs through the center of the State, between which and the ocean lies a

wonderfully fertile and interesting llano or great seaward-sloping valley. All through these two ranges, and at all altitudes, there are scattered many valleys of important extent; and these ranges, up to an elevation of eight thousand or nine thousand feet, are generally well wooded, except in the southeastern region of the Sierra Nevada.

The streams of the Sierra Nevada almost all flow westward and out through the Golden Gate, while those of the Coast Range flow directly toward the Pacific.





## Topography of California.

Maps of California, if desired, will be furnished by the Southern Pacific Company's agents on application by letter or otherwise. The following short description of the State's topography will be necessary to an intelligent conception of the good things hereinafter mentioned as being in waiting for the enjoyment of travelers.

It may here be said that by very reason of the novelty of all things in California, the traveler cannot inform himself in advance too thoroughly concerning them. He will see strange and occasionally grotesque vegetation; farmers engaged in pursuits the character of which he almost surely will not understand; historical ruins belonging to a civilization which has passed away; lordly country mansions, pretty valleys, snow-capped mountains, abandoned placer mines with tragic histories, and a thousand other things which, if understood, will arouse interest and yield rich pleasure. The traveler who assumes a lofty indifference to the presence of strangers with whom he may be thrown will surely miss much. The good-nature of Californians; their positive unselfishness, manifested in a desire that all others should share the good things they enjoy, makes them the most delightful of traveling companions, and, as a rule, easily approachable.

Of equal value is such intelligent reading matter as may be available, including this little book.

**General Features.**—California has two great mountain ranges running north and south, parallel to the Pacific Ocean, and extending from the northern extremity of the State two-thirds of the way to the southern end. The one on the eastern border of the State is the Sierra Nevada; that on the western, abutting upon the ocean, the Coast Range. These two ranges meet at their northern and southern ends, and thus inclose the great interior basin, which, 450 miles long and 50 miles wide, comprises, with the contiguous foothill region, the bulk of the arable lands of the State.

The southern meeting point of the ranges is Tehachapi Pass. South of the pass are numerous minor ranges, which have a general easterly and westerly trend. The principal of these are the Sierra Madre, north of Los Angeles, and the San Bernardino Range, east of Los Angeles.

The great basin north of Tehachapi Pass is drained by two principal rivers, the Sacramento in the northern end, flowing south, and the San Joaquin in the southern end, flowing north. These meet midway in the great basin, and, as a single stream, flow westward through a break in the Coast Range, emptying into the Bay of San Francisco, and thence reaching the ocean through the Golden Gate. These two rivers are perennial, and are navigable as far as Marysville on the north and Stockton on the south.



The rivers in the southern part of the State are mainly torrential, not navigable, and, with the exception of the Santa Ana, which irrigates the orange groves of the Riverside region, are dry in summer.

The Klamath River, in the northern end of the State, is the only stream of consequence, besides the combined Sacramento and San Joaquin rivers, that breaks through the Coast Range and empties into the ocean.

Many of the most picturesque and highly developed regions are the minor valleys distributed through the Coast Range. Principal among these are the wine and fruit valleys of Santa Clara, Sonoma and Napa; and, in the southern part of the State, the Ojai, San Gabriel and Santa Ana.

**The Coast.**—California has a frontage of more than 700 miles on the Pacific Ocean; yet, although its variety is remarkable, and its picturesqueness alluring, it is one of the spectacular features that is hardly ever heard of by the traveler, by reason of the fact that it has been made accessible at very few points by regular lines of travel. A few words will suffice to explain its beauties and peculiarities, and indicate the kinds of delights the more enterprising tourist may experience if he have a love for the beautiful in Nature.

For the reason that the Coast Range abuts upon the sea, the coast generally abounds in bold headlands and promontories, not unlike the western coast of Scotland in ruggedness, and, in its seaward aspect, presenting a high breast to a foaming, thundering sea; but it lacks the quiet inlets of the Scottish coast, and from the Bay of Monterey to the northern limit of the State, in place of the barren desolation of Scotland, are splendid virgin forests of pine and redwood (*Sequoia sempervirens*). These forest-clad headlands, so little known to the world, are scantily settled, and yet their charms are unsurpassable. The true sportsman, as well as the sightseer, will find among them the rarest delights which all the West affords; for fish in great quantities and varieties abound in the ocean and streams, and the great silent forests are the haunt of the noblest game. Here one may find deer, jaguars (California lions), and black, brown and cinnamon bears. Added to these attractions are peculiar climatic conditions which exist nowhere else, and which are treated separately in the chapter on climate. It must answer here to say that the absence of heat and rains in the summer combines with the other attractions to make these headlands and the mountains back of them the ideal resort for hunters.

**Bays.**—There are remarkably few bays in California, only two being landlocked. These are the Bay of San Francisco and the Bay of San Diego. The Bay of Monterey is a beautiful but unguarded sheet of water. The only bay in the northern part is Humboldt Bay, a comparatively small sheet of water, accessible only by stage or steamer; but by reason of its commercial importance, as being a shipping point for lumber, Congress recently made a liberal appropriation for its improvement.



**Sandy Beaches.**—Beginning at Santa Barbara, where the general course of the mountains changes, occur long stretches of sand beaches, generally backed by high table-lands called mesas. These stretch almost without interruption from Santa Barbara to San Diego; and, with the exception of the Bay of Monterey, where the superb resorts of the Hotel del Monte, Santa Cruz and Monterey are found, it is crowning these mesas of the south that most of the beach resorts of California are placed. These beaches, with reference to climate and the temperature of the water, are much like those of the most delightful parts of the Mediterranean. Surf-bathing at all times of the year is a pleasure, and fishing and sailing are uninterrupted sources of delight. Excepting certain of these places, however, as for instance, Santa Monica and Long Beach, in the vicinity of Los Angeles, they are mostly winter resorts for those who wish to escape the rigors of the Eastern climate. This does not mean to say that their lack of a large summer business means a hot and disagreeable summer climate. On the contrary, the summers are far cooler and pleasanter than those at Newport and other popular Atlantic resorts. Wherever there is a large resident population contiguous there is a corresponding generous summer business, supported by the inhabitants; and that is why the Hotel del Monte, Monterey, Santa Cruz, Santa Monica and Long Beach are both summer and winter resorts.

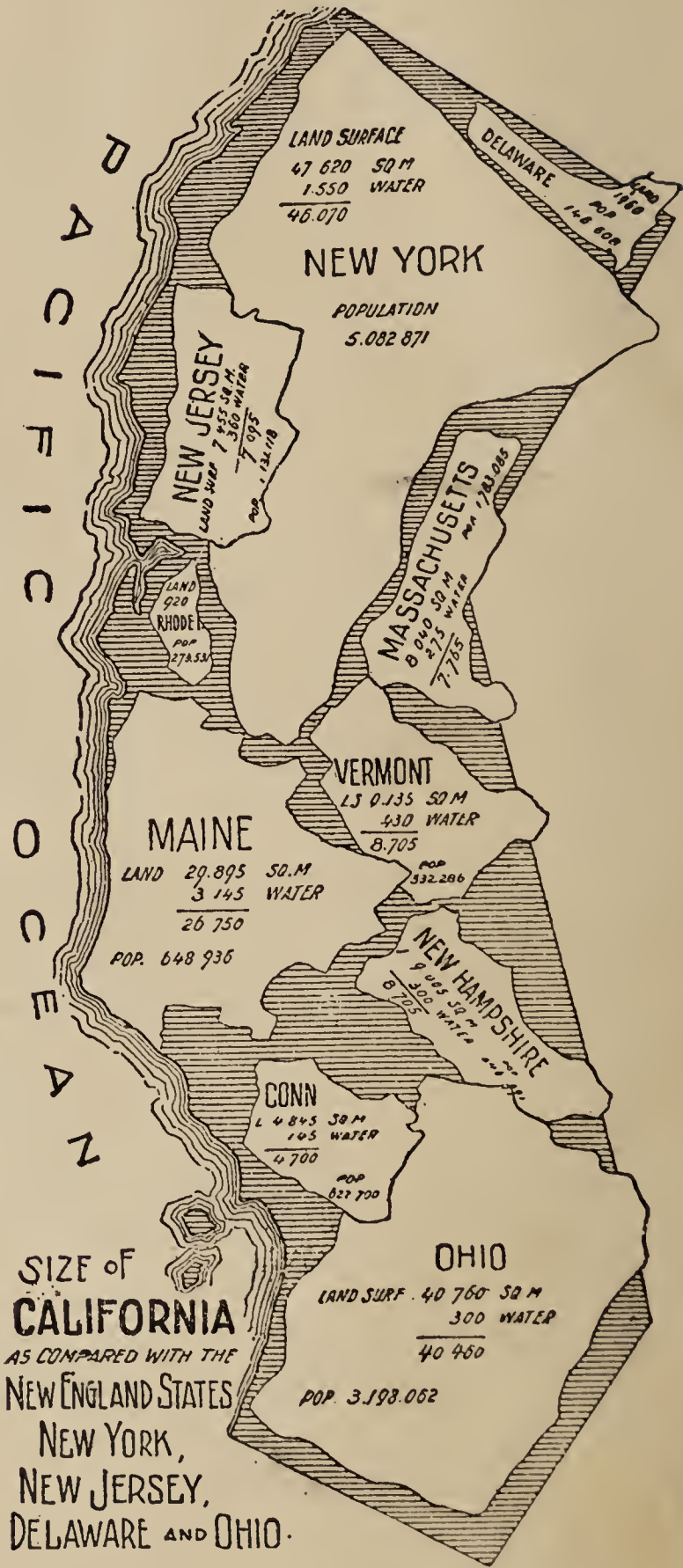
Under separate heads will be found ample descriptions of special mountain attractions, as the Yosemite Valley, Mount Shasta, Lake Tahoe, etc.; but there are certain general charms with which the ordinary traveler is unfamiliar, and which, if he should cultivate a knowledge of them, would afford him fine and unique delights. There is not space to give the geological history of the State, strange and wonderfully dramatic though it be. Much of this may be inferred from what shall be said concerning the gigantic dead volcanoes, the geysers and boiling springs, startling upheavals of granite through overlying masses of lava which volcanic eruptions spread over the country.

**Islands.**—Angel, Alcatraz, Goat and Mare islands, in the Bay of San Francisco, are the property of the United States Government, Alcatraz being strongly fortified. The traveler to Japan and China will note shortly after leaving the Golden Gate a group of sharply serrated island peaks lying about thirty miles off the mainland. These are the Farallones, and inhabited only by the lighthouse keeper and myriads of sea birds. The Santa Barbara Channel Islands are the most important in size and interest of any belonging to the State. They are four in number,—San Miguel, Santa Rosa, Santa Cruz and Anacapa,—ranging in size from ten thousand to fifty thousand acres in extent. Santa Catalina Island, some thirty miles from San Pedro, or about fifty miles from Los Angeles, is a favorite summer resort and a most charming ocean retreat. Other small islands are scattered up and down the coast, but are of little interest except for lighthouse purposes.



Comparative Area of California.

COUNTY.	Area in Acres.	Population in 1890.
Alameda.....	512,000	93,516
Alpine.....	535,000	667
Amador.....	416,000	10,315
Butte.....	1,200,000	17,904
Calaveras.....	668,000	8,970
Colusa.....	768,000	8,352
Contra Costa.....	489,760	13,503
Del Norte.....	989,000	2,570
El Dorado.....	1,150,000	9,206
Fresno.....	4,256,000	31,877
Glenn.....	768,000	6,264
Humboldt.....	2,297,600	15,510
Inyo.....	5,196,000	3,544
Kern.....	5,137,920	10,031
Kings.....	359,000	7,900
Lake.....	704,000	7,103
Lassen.....	3,040,000	4,144
Los Angeles.....	2,650,880	101,410
Madera.....	1,344,000	.....
Marin.....	325,000	12,613
Mariposa.....	988,000	3,817
Mendocino.....	2,442,000	17,573
Merced.....	1,259,336	8,062
Modoc.....	2,750,000	4,986
Mono.....	1,789,440	2,016
Monterey.....	2,129,920	18,658
Napa.....	504,960	16,304
Nevada.....	720,000	17,375
Orange.....	429,502	13,564
Placer.....	915,000	15,089
Plumas.....	1,709,840	4,916
Riverside.....	4,485,120	.....
Sacramento.....	619,520	40,508
San Benito.....	675,840	6,390
San Bernardino...	14,647,040	25,486
San Diego.....	5,471,980	34,878
San Francisco.....	27,000	297,990
San Joaquin.....	876,800	28,576
San Luis Obispo..	2,289,920	16,176
San Mateo.....	298,880	10,054
Santa Barbara.....	1,449,600	15,730
Santa Clara.....	1,120,000	47,895
Santa Cruz.....	279,680	19,270
Shasta.....	2,500,000	12,133
Sierra.....	499,840	5,047
Siskiyou.....	3,889,820	12,140
Solano.....	529,920	20,485
Sonoma.....	960,000	32,691
Stanislaus.....	928,500	9,992
Sutter.....	390,400	5,465
Tehama.....	2,000,000	9,878
Trinity.....	1,680,000	3,685
Tulare.....	3,740,840	24,875
Tuolumne.....	1,349,920	6,028
Ventura.....	1,076,480	10,066
Yolo.....	650,880	12,684
Yuba.....	394,880	9,550



COMPARATIVE AREA MAP OF CALIFORNIA.

In addition to what the above object lesson conveys to the eye, it might not be irrelevant to state that California occupies a stretch of country on the Pacific Coast that corresponds in latitude with that portion of the Atlantic Coast bounded on the north by Plymouth Bay, in the State of Massachusetts, and by Savannah, Georgia, on the south.



## How to Reach California.

### SUNSET ROUTE.

**New Orleans.**—If any city in the United States has the elements of the picturesque, this has. Its setting is unique. Out of Holland, it is not expected to find cities lying below the level of their waterway. And this waterway is grandly majestic—impressive father of waters, artery of trade navigable, with its tributaries, for 16,000 miles, notable in its almost human moods, its mighty tides, its levees and crevasses, riffles, snags, changing currents and channels. Lovely Lake Ponchartrain, its bordering forest of magnolias, the luxuriant growth of every flower and shrub, all lend New Orleans an air of romance.



THE ALAMO.

Then, the different rules, French, Spanish, Anglo-Saxon, naturally have stamped many places here with undying historic interest. The site where Jackson whipped the British on January 8, 1815; the old rendezvous of the pirates of the Spanish Main; the Ursuline Convent; the quaint old market-place, with its low-browed roofs and its many strange wares of local produce; the cosmopolite human elements—all these are full of interest.

The intramural cemeteries, whose dead are shelved in niches, suggesting pigeon-holes, are peculiar to this of all American cities. At the levees may be seen the stern-wheel steamers, laden to the roof of the pilot-house with cargoes to be swiftly transferred to ocean-going steamers for foreign ports. New Orleans is the world's foremost cotton port, and she also ships an enormous amount of sugar, besides rice, grain, potatoes, tobacco, deciduous fruits and other staples, receiving in return fine cabinet and dye-woods, tropical fruits, hemp, coffee, rubber, etc. The city looks mostly American, but the foreign district is sharply defined, being bounded on the west by Canal Street, the main thoroughfare. The Grandissimes and their kinsmen still live in New Orleans; the tourist may not meet them, for they are shy and very retiring and exclusive, but they do continue to dwell here, and even to turn out in honor of the Mardi Gras pageants, and sometimes on other occasions.

**Louisiana.**—The original territory of Louisiana extended all along the west bank of the Mississippi north to Canada, and thence to the Pacific Ocean. The present State is only about one-thirtieth



of that size, as California and one or two other quite respectable States can vouch for; but still Louisiana is "quite a smart" of a State. She can justly claim more than this kinship, too, for much of her rich, alluvial soil has been carried down by the wash of the Mississippi from the eastern slope of the great continental divide and the great plateau of the west-central States. This country is mostly level. It is abundantly wooded and watered. The moist, warm climate, especially on the Gulf Coast, produces an exceedingly lavish growth of ferns, palms, and all endogenous plants, forests of the fragrant magnolia, acacia, linden and pomegranate. By the water-courses are huge, ancient cypress trees tapestried with gauzy Spanish moss; on the bayou banks and larger rivers, the willow, walnut, palmetto and wild orange; and on the lake borders, maple, mulberry, cedar and oak. In the culture of sugar-cane, Louisiana leads all the other States. In the cane-cutting and cotton-picking season, the plantations are scenes of merry-making as well as of activity. The African is the only man who can work and play at the same time. One of the most interesting possible studies in black and white is an "old cullèd pusson" picking cotton. The negroes apparently are not acquainted with the wolf at the door; they seem to have buried Care a thousand fathoms deep and forever.

One of the most delightful outings to be taken, even in this land of wonderful lake and river navigation, is a cruise on the "Bayou Teche," about a hundred miles west of New Orleans, up stream into the heart of Louisiana. This is the land of the Acadians, whose nearly two centuries of sojourn here have made almost no change whatever in their manners, customs and way of living. They have acquired no Americanisms—not even the English language. This is a land classic in song and story. Here is situated "Carancro," the home of "Bonaventure," and many another scene of Cable's charming stories.

But this rather gloomy, if picturesque, description applies only to the dark fens of the cypress swamps; the general scenery of Acadia is placid, restful and always enjoyable.

**Texas.**—Like most of the border States, Texas has had an eventful history. From Orange, on the Sabine River, to El Paso, on the Rio Grande, the distance is 952 miles, and this great stretch of country is all across the one State of Texas. This territory was wrested from Mexico in 1835, and was recognized as an independent republic for ten years, but was finally annexed to the United States on Christmas Day, 1845. As might be supposed, nearly every variety of climate, soil and scenery is found in this immense State. There is the humid atmosphere of the semi-tropics along the Gulf Coast, where the mean temperature is about seventy-two degrees; the prairie rolling lands, rich and fruitful, stretching up to the great table-land of the Llano Estacado (Staked Plain), and then the mountains. The journey over the Sunset Route gives a very adequate idea of these belts. The vegetation of the lower zone is, of course, more profuse than the others, and the rainfall greater, this diminishing from fifty-five inches annual fall at Galveston to about



twelve inches on the Staked Plain. The prairie belt is beautifully wooded with live-oak and deciduous forest trees. When the mountains are reached, the face of the country is more open, giving scope for those far-reaching and glorious landscapes so delightful to the viewer.

The history of Texas is full of thrilling episodes. The French, the first settlers, were soon expelled by the Spaniards, and when, in 1821, Mexico threw off the yoke of Spain, Texas, now settled largely by Americans along the eastern borders, became a province of the new republic. In 1836 Texas in turn declared herself independent of Mexico, and in the war that ensued between "the Lone Star State" and Mexico, the siege of the Alamo was the most striking episode. It was indeed one of the most deadly and heroic contests of history—the American Thermopylæ. The Alamo (the name is Spanish for poplar tree) was built by the Franciscans in 1718, and, like all the Missions, it was at once a church and a fort for protection against Indians. It was now garrisoned under the famous Davy Crockett, Bowie and Travis. On February 23d it was besieged by General Santa Ana, commanding 7,000 Mexican soldiers. The siege lasted until March 6th, the Americans meanwhile twice repulsing the Mexicans severely. But the odds were too great, and after the eleven days' terrific fighting the fort was carried by storm. The Mexicans found 172 of the defenders still alive, and these they put to death without regard to age or sex. Only two escaped, a woman and a young child, who managed to steal away undetected.

At Spofford Junction, he who desires to see something—and a sizable and interesting portion, too—of Mexico, will take a spurt off on the International. Cross at Eagle Pass on a fine steel bridge over the Rio Grande. The face of the country has not changed, but the accessories have, decidedly. From the foreign-looking man in broad-brimmed hat, probably with cigarette in mouth, who inspects the luggage at the custom-house—and, if treated with half-way consideration, rarely occasions the owner the slightest inconvenience—to the peon wearing a blanket instead of a coat, and sandals for shoes, sunning himself beside an adobe wall, or trotting briskly along the road behind an absurdly tiny donkey loaded with chickens or melons or firewood—all is novel. The trainmen and agents are now supposed to have added Spanish to their numerous accomplishments. It is much more difficult, too, to smash a trunk in Spanish, as that language is so much softer than English.

There are elements of incalculable wealth in Mexico, poor as the bulk of the population seems, and on every hand are evidences that a new life is being infused into the country by the advent of the railroad.

At Sabinas is a branch road running to the great Hondo Coal Fields, with a fine quality of coal and a splendid home market, beside a large demand in Texas, New Mexico and Arizona. The Sabinas is a lovely, clear stream with richly wooded banks. At Hermanas is one of the largest springs of hot mineral water on the continent, a real river of hot water, clear as crystal and soft as oil,



flowing out of the hillside and through a grove of splendid trees. Down in the valley are sugar mills, probably the most old-fashioned in the world, but which, the people declare, can make sweeter sugar, and more of it, from the same amount of cane, than by any modern improved process. This is the neighborhood of Monterey, "where the battle was fought," of Saltillo, where are made the best *zarapes*, or native blankets, in Mexico, and of Parras, which is about the only wine-producing district in Mexico. But the wine made there is good enough to make up for deficiencies elsewhere. All this time the altitude is gradually increasing as the road climbs up on the great central plateau of Mexico. At Bola and Mayran it is 3,500 feet above sea level. At Torreon connection is made with the Mexican Central Railway for El Paso and the City of Mexico. The International, ultimately bound for Mazatlan on the west coast, goes on across to Durango. The land around this fine old plateau city is as rich as it is picturesque. The agricultural and mineral wealth, existent and to be developed, is simply marvelous. The whole Sierra Madre, still almost an unexplored region, is full of gold and silver, and, as for farming, the produce that the Mexicans get makes outsiders wonder what the yield would be to advanced modes of cultivation, in place of scratching the ground with a forked bough, as is the native way of plowing.

At Durango, the traveler who wishes can see bull-fights "as is" bull-fights. The Durango strain of bulls is famous for gaminess and strength all over Mexico. But no one need quake with apprehension—there is no law to force people to attend bull-fights, if their prejudices or their stomachs are opposed. The Durango cathedral is a poem in architecture. The Cerro del Mercado, or Iron Mountain, a league from the city, is a great sight. It is estimated to



PECOS RIVER BRIDGE.

contain 200,000,000 tons of iron ore, and is fast enriching the owners.

The canyon of the Rio Grande, between Langtry and Del Rio, is rich in scenic interest. This stream has quarried its bed through and around many precipitous cliffs, and has its birth in the wild Rockies of Colorado. The Devil's River palisades on the east side, about a dozen miles west of Del Rio, are deserving

of more than a passing notice. The action of the elements that have wrought some strange freaks on the canyon walls hereabouts, is especially noticeable at the right hand going west, just after crossing Devil's River Bridge. Here are great architectural-like structures, huge corner-stones set upon open bed-rock foundations, broad, imposing façades, with columns, cornices, capitals and entablatures of perfect proportion and design. All down the Grand Canyon the friable



sandstone walls are full of caves and grottoes, from the size of a swallow's nest to an acre and a half in extent. The Painted Cave is the most celebrated of these caverns, about 175 miles west of San Antonio. Usually the trains stop at Painted Cave station long enough for the passengers to visit the cave, situated in the north wall of the canyon, about sixty feet above the river. The opening is fifty feet high by three hundred wide. The river in sinuous fringes of evergreen, the rich bottom-land, the curiously-sculptured canyon wall on the south (in the Mexican State of Coahuila) form a picture which, seen through the rocky framework of the cavern's mouth, is one of rare novelty and effectiveness. No satisfactory explanation is offered for the uncouth hieroglyphics on the rear wall of Painted Cave, but they probably had some important significance among the tribes who formerly made this their rendezvous.

Leaving the Rio Grande and its canyon, the altitude steadily and rapidly increases. The now monotonous face of the country is partly offset by the distant landscape, the mountain-hemmed horizon, and the high and dry exhilarating atmosphere, through which the clear, strong sunlight pours gloriously.

The approach to Paisano Pass, the highest point on the road (5,082 feet), is so gradual that but for the rarefied air and the occasional glimpses of the plains far away, it would be difficult to believe that it is nearly a mile above sea-level.

El Paso is picturesquely situated where the railroad again encounters the Rio Grande, directly on the bank of this river, across which lies the old town of Paso del Norte (now officially Ciudad Juarez) in the republic of Mexico. The old church "on the Mexican side," which has stood for nearly three hundred years, is quite an object of interest, and many characteristic features of Mexico can be seen in this border town.

The city on the American side is progressive and business-like. From this point, as well as from Spofford, side trips can be made into the sister republic, whose mines of inexhaustible richness, vast domains of cereal and grazing lands, forests of rich woods and historic antiquities, are well worth a visit. Its ruins are as interesting, its architectural remains as ancient, as those of Greece and Rome.

From El Paso the railroad runs through southwestern New Mexico, past Deming, the station from which trips can be made to Zuni and other ancient prehistoric pueblos, and then Lordsburg, a little beyond which it enters Arizona.

**New Mexico and Arizona.**—Along this section the main chains of the Rockies are not visible from the road, but all the scores of scattered disjointed ridges seem to have been broken from that great backbone of the continent.

These mountain islands have a beauty peculiarly their own. Their barren crests and wild gorges are full of the charm of mystery. That they have floated off, so to say, from the main chain seems more real when the weird Mirage washes the shores of these island peaks. Tall ships go sailing into the west, and the sun sets in a veritable mid-ocean splendor.



This phantom, Mirage, performs some strange freaks. It bridges peaks many miles apart, and at times are seen lofty mountain systems suspended in the sky; but point by point they always melt away, leaving wide, island-dotted lakes with shores of living green. The most picturesque of the desert mountain ranges is the Santa Catalina, north of Tucson. This is a strange anomalous combination of a lively, bustling American mining center and an antiquated, sleepy, backward Mexican town. In modern improvements and innovations, in energetic enterprises, progressive ideas, railway facilities and many other points, Tucson is thoroughly American. But go into the suburbs, scan the adobe, unstuccoed houses, low-built and gloomy, see the people, with their slumberous conservative habits, and many of their customs almost antediluvian; the women washing clothes on flat stones in the stream, and carrying them home in baskets on their heads; the vaquero costumes of the native riders; the firewood peddlers, with their stock packed on queer, patient little donkeys;—these are eminently Mexican and un-modern.

The altitude maintained by the railroad across New Mexico and Arizona averages nearly 4,000 feet.

Nine miles from Tucson is San Xavier, the first built, and the only one remaining intact, of the many Missions erected in Arizona by the Franciscans and Jesuits. Its exact date of construction is not known, but it must have been from 1690 to 1700. Its Moorish architecture is imposing. The walls are of adobe and stone, and its towers, domes, recesses and angles are, as far as possible, removed from monotony. The interior is gaudy and garish. To appreciate properly the stateliness of this structure, it must be remembered that it was built in a primitive age, for the use of a primitive people, and in a land as wild as it was isolated from civilizing influences.

It is, perhaps, natural enough that this section should be misjudged to consist wholly of cactus, desert, infernal temperature and Apaches. The territory was so long given up to the Indians that its fame has gone abroad most evilly. As a matter of fact, many parts of Arizona are most fertile, indeed, blossom like the garden of Eden; and a still greater proportion needs only cultivation and development to make it exceedingly productive. But even the hopelessly irreclaimable sand-wastes—the cruel, relentless desert—have aspects of beauty all of their own and unsurpassed.

The cactus forms are as interesting as they are fantastic, and comparison could be no stronger. The skies are like one vault of cobalt enamel. The sunlight, burning as it is, is sumptuously brilliant. The whole reach of the desert country is like one infinitely great painting by the unrivaled French master, Gerome. His coloring, his atmospheric richness and depth of effect, are there. One fairly looks to see one of his thirst-famished lions stalk into the prospect, lean, lank, sunburned, tawny, with trailing, tufted tail and heat-reddened eyes.

The mountain ranges are magnificent in the distance. The Great Stone Face and Cæsar's Head of eastern ranges are not more



notable natural mountain profiles than the imposing "Cochise's Head," that the conductor points out from the Sunset cars.

The verdure in Arizona has many points in common with that of New Mexico on one side and California on the other, but it has also much distinctively of its own. Trees such as iron-wood, mesquite and palo verde are abundant. These have narrow, fine foliage, delicately constructed and very profuse, wood very hard and beautifully grained, pleasing contour, sharp, hard thorns, and thin, close bark. The palo verde may be distinguished from its neighbors by the trunk and limbs, as well as the leaves being always of an exquisite pale-green shade that adds much to its beauty.



CASA GRANDE RUINS.

Of the many ruins and cliff dwellings to be met with in the narrow valleys and canyons of New Mexico and Arizona, the most important is that of Casa Grande (Great House), to be reached by a stage ride of about two hours from Casa Grande station. This is probably the oldest of the prehistoric ruins in North America. It is impossible to determine or divine what race constructed it. These great walls, gnawed by the ruthless tooth of time, have decayed disproportionately in the last century, largely owing to the destructive vandalism of relic-seekers; and the Department of the Interior has lately put in charge a custodian, and taken other measures to protect the great ruin from further depredations and deterioration beyond the unavoidable processes of natural demolition.

Maricopa is the junction of the Maricopa & Phoenix Railroad with the main line, an outlet for the productions of the famous Salt River Valley. By this route are reached the thriving cities and towns of Phoenix, Tempe and Mesa. The total of arable land in this district is four hundred thousand acres, all of which can be brought under irrigation by the abundant water supply from Salt River. There are already over thirty thousand fruit trees and three hundred thousand vines planted in this vicinity. Here wheat averages twenty-five, and barley twenty-six, bushels to the acre. This is in arid Arizona.

Salt River Valley, when it was first settled in 1868, appeared as an arid waste, covered with mesquite, greasewood and cactus. Its development has justly earned it the name, "Garden of Arizona," and nothing could show more clearly the potentialities for agriculture in Arizona. The traveler approaching Phoenix and the other towns in this valley sees groves of rapid-growing cottonwoods, surrounding tasteful homes, of which not a few are really elegant in architecture and finish; lines of graceful Lombardy poplars, and hedges of dense Osage orange; while broad fields of alfalfa, and masses of pomegranate, fig and deciduous fruit trees enrich the vista. Maricopa County contains some 400,000 acres of arable land,



and Salt River Valley alone has nearly 230,000 acres of as fine soil as there is on earth, mostly light, porous, sandy loam, especially adapted to fruit-growing. As far back as 1539 the exploring Spaniards mentioned the enormous remains of irrigating works with which this region abounds. These reservoirs and canals still exist in ruins, showing what large areas were cultivated by the prehistoric dwellers,—for instance, the plain between the Gila and the Salt River, thirty miles long by four or five wide. The recent large addition to the population, and the large irrigating enterprises set on foot are indicative of a healthy growth and a prosperous future for Salt River Valley.

The Colorado River, crossed by the railroad at Yuma, is one of the principal rivers of America. But for the enormous evaporation in its passage across the vast arid table-lands, and absorption by the porous soil for hundreds of miles along its banks, the Colorado would have as large a volume of water as the Columbia. It rises far away, up in the territory of Wyoming, and the snows of the Rockies and the Sierra Nevada, with the misty treasures of unnumbered chains between, combine in creating its current.

Yuma is situated on the Colorado, just below the confluence of the Gila. The sunny skies of this country, in conjunction with the purity and dryness of the atmosphere, have been found most beneficial for sufferers from pulmonary troubles.

**California.**---It seems little doubtful that the Gulf of California formerly extended to near the San Gorgonio Pass. The detritus of the Colorado River, or some other of the slow, sure forces of Nature, cut off from the main body an inland sea one hundred and fifty miles long by forty or fifty wide, which, eventually drying up, left large bodies of salt, which are now profitably mined at Salton, near the station of that name. The descent from Cactus, 395 feet above the sea-level, to Salton, 263 feet below sea-level, a drop of 658 feet in a distance of seventy-five miles, has no parallel in railroading. From an altitude of five feet at Flowing Wells, the vast basin varies to a depth of sometimes fifty fathoms. Perhaps half of this space, extending to ten or fifteen miles beyond Indio, and forty miles north and west, may be reclaimed by irrigation. Its fertility may be judged by the record of a grapevine at Indio, which in one year made a growth of thirty-six feet eight inches.

Soon after passing Indio the train traverses the San Gorgonio Pass, then shortly after reaches Colton, where appears the first installment of insinuating small boys, ready to sell the traveler any quantity of tempting California fruits and flowers. This is the junction for garden-embosomed San Bernardino, overlooked by the lofty peaks "Old Baldy" and "Grayback." Then come the station of Cucamonga, opulent in vines and olives; the flourishing city of Pomona, with a thriving population of nearly five thousand, where eighteen years ago was only a desolate sheep-range; Spadra, Puente, Savannah, and half a dozen other village stations, strung along the line like beautiful beads on a flowery rosary. The cream-white walls of old San Gabriel Mission loom up, with the ancient



bells in their quaint arches, and then comes "The City of the Queen of the Angels." Orange groves, vineyards, flowers, cable and electric roads, scores of daily railroad trains, splendid edifices, blissful homes, business, romance, reminiscence,—such is Los Angeles. Rumbling in the darkness of the San Fernando Tunnel, humming through the Soledad Canyon, go the cars, passing Mojave Junction, wind-swept Tehachapi, through the mountain region with its marvelous feats of engineering, the nineteen tunnels, "the Loop," where the track crosses itself, over the top of a tunnel that it pierces on a lower level, and it enters the sometime lacustrine basin, whose waters, now vanished, so profitably enriched the soil to the infinite advantage of present dwellers in this great valley.

The great San Joaquin basin proper is two hundred and fifty miles long by sixty wide. It contains six counties, the smallest of which would make a State larger than Connecticut, and each of which is capable of supporting, as its commercial center, a city of fifty thousand inhabitants.

The valley's average rainfall is ten inches, but agriculture is expedited by irrigation on a scale veritably stupendous. The main canal alone of one system tapping the Merced River is over twenty-seven miles long, ten feet deep, one hundred feet wide at the top and seventy feet at the bottom. Its carrying capacity is 3,400 cubic feet per second. This canal, which is but one of many in this immense valley, was constructed at a cost of \$3,242,000 to benefit the territory in its wide neighborhood.

The temperature of this section rarely falls below thirty degrees, and bouquets of flowers grown in the open air may be culled every day in the year. The fertility of the soil is amazing, and the profits of agriculture almost beyond credibility. Here are orange groves producing eight hundred dollars per acre per annum, and blackberry and strawberry gardens yielding to their owners up to \$1,500 per acre. The vineyards and fruit orchards here are measured by miles square rather than by acres, and their great size corresponds with the almost fabulous yearly revenues derived from them. Among them are scattered edifices which resemble the suburban homes of capitalists rather than mere farmhouses, which they are,—the homes of the owners. There are also many homes of more modest size and unpretentious style, yet full of comfort.

The local attractions have naturally drawn hither a large number of wealthy people, including many high-class and enterprising English; and the money spent by such settlers enhances the value of neighboring as well as their own property.

Phenomenal natural advantages, industrious development, sagacious expenditure,—such are the elements that have made of the San Joaquin Valley a picture of prosperity, whether seen as a sea of green in early verdure, or glistening with the brown richness of harvest time. Sentineled on the north by snow-capped Shasta, and on the south by Tehachapi, with the rugged peaks of the Sierra Nevada and the Coast Range on either side, this valley represents an aspect of verdant loveliness that defies the artist's genius and the readiest pen of a writer to faithfully portray it.



Its lately developed colonies are all thriving, and its towns, both old and new, are growing with the rapid spread of a substantial prosperity.

Soon comes Fresno, raising one-half of all the enormous output of California raisins. Presently Lathrop is reached, where one branch of the road turns to Stockton and Sacramento. The main track swings on. Before long a pleasant saline, moist smell steals into the air, and then, across what looks like meadows of tall, coarse grass (the tules of the Spanish) are seen sails, apparently gliding over the land. But the edge of the bay lies beyond that marsh growth, and the boats are on their normal element. The train thunders into a vast station; the passengers pour out; a whistle blows; hurry! the big ferry-boat will be leaving. And yonder, across the smooth smiling waters it will cleave, lies outlined against the sky, with the contour of some colossal saurian monster, the city of the Golden Gate, San Francisco.

The division from Ellwood to Santa Margarita will be not the least interesting of the Southern Pacific's itinerary. Northward from Santa Barbara it skirts the coast for some distance, past the nucleus of tropic growth collected from the four quarters of the globe and the fractions between at lovely Ellwood. Thence are steep cliffs, tumbling waves, tall eucalyptus; groves of orange and of olive; fragrant, fern-fringed canyons of the Coast Range,—Gaviota, Tecolote, etc.; wild mountain rifts; rippling streams; stretches of grass land sprinkled with indigenous floral beauties; "long fields of barley and of rye," that is, of wheat and corn and beans; clumps of live oak; and then, as the road traverses settlements of another character, snug farm-houses and dairies,—the rich dairies that earn for San Luis Obispo loads of coin, yellow as their own butter; and then that quaint, hill-embosomed little city, San Luis, still holds much of the atmosphere of pastoral California days; and an odd and pleasing effect lies in the commingling of the old and the new régime, picturesque remains and profitable progress.

The sixteen miles of route through the mountains down to Santa Margarita are a triumph of engineering and a study to the artist. The "Cuesta," or old stage road, glimpsed at intervals from the track, the sinuous worming of the route over bold crests and spurs, the nine tunnels, the far prospects, the mighty gorges, make this road a fascinating one to travel over.

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### OGDEN ROUTE.

First in point of time, first in historic interest among the Pacific Coast railroads, and equal to any in scenic attractions, is the famous Central Pacific highway, 883 miles long from Ogden, west and southwest, to the Bay of San Francisco. No other route can ever be so dear to the old Californian who remembers the emigrant trains of '49, the Forty-mile Desert, the sage-brush, sand, alkali, the canyons of the Truckee, the crossing of the Sierra. He now looks out of his palace sleeper and sees the fragments of the weary trail



of pioneer days, and the marvelous tale of the peopling of the far West unrolls before his thoughts.

The story of the Central Pacific has been told in a thousand forms, but always with a recognition of its economic value to the United States, of the 'sixties. Away back in 1831 General Leavenworth first suggested the idea of a railroad to the Pacific Coast, and there never was a time, from the conquest of California until the grant was made, that the Pacific railroad was not most strenuously advocated. The Sierra passes were carefully explored by competent engineers as early as 1859, but it was not until 1862, when the Comstock was pouring out its first bonanza yields, and thousands of teamsters were freighting supplies from Sacramento into the Washoe country, that this mighty project was inaugurated.

On January 8, 1863, the first earth was broken at Sacramento, and the building of the road eastward to meet the advancing Union Pacific was hastened with almost superhuman energy, until the "Golden Spike" was driven at Promontory, May 13, 1869, and the railroad empire of the middle zone of the United States was peacefully divided between two great companies.

It has seemed strange to many historians that a small group of comparatively obscure business men in an interior town of California should have conceived the idea of such an enterprise and carried it to a successful result. Sacramento since 1849 had been the great outfitting point for the mines, and after 1860 the Nevada rush made the problem of transportation familiar to the people of the Capital City. The world has never seen a more superb race of mountain teamsters and stage drivers than that which stormed across the Sierra day and night, conveying thousands of passengers, millions of pounds of supplies, from the Sacramento wharves to Carson and Virginia City.

Sacramento, in the early 'sixties, was full of path-finders, road-builders and men who had faith in the undeveloped resources of the mountain lands and the deserts beyond them. In this spirit the first great railroad of the Pacific Coast was thrust forth into the wilderness thirty years ago, when men began to find fertile valleys and mines of precious metals in that vast basin so long called the Great American Desert.

Many a story is still told of those early days—the days of frontier towns built in a day and abandoned in an hour—the times when Julesburg flourished and the Vigilantes of Montana were killing outlaws. The American prospector, hero of unwritten epics, was laying the foundations of the Rocky Mountain chain of States and Territories. The mighty inland realm that Lewis and Clark, Bonneville, Fremont and the argonauts of 1849 had crossed, and found so strange and terrible, was made the "highway of the nations." The buffaloes and trappers have disappeared; the Indians are but a scattered and feeble remnant; the ancient frontier forts and stage stations of pony-express days are crumbling ruins.

A transcontinental traveler crossing the mountains and deserts, westward bound from Ogden, on the Central Pacific, finds a perennial charm in such contrasts as those that have been so briefly outlined,



and those who are best acquainted with the geology, botany, topography, history and romance of the region, will most enjoy the journey. The snowy Uintah and Wasatch ranges, and the noble Echo and Weber canyons have already delighted one's eyes. Ogden, a thriving city of fifteen thousand inhabitants, is one of the most solid cities of Utah. Many tourists arrange to stop over a few days here, so as to take a run down to Salt Lake City. Salt Lake, the American Dead Sea, lone relic of vast inland waters of the prehistoric lake period, is always worth a visit, and the brief glimpse one obtains from the railroad northwest of Ogden, is hardly more than tantalizing. Nevertheless, this run of twenty-four miles nearly north from Ogden to Corinne, past Bonneville and several small stations, illustrates much that is characteristic in central Utah scenery—the wide sandy valleys, yellow in the season of sunflowers, the fringes of cottonwoods and willows, the sharp-hewn hills of blue, the clear air of the high table-lands.

Corinne itself is a little town with a population of about three hundred, and the railroad, turning almost due west here, passes in the course of a hundred miles to Terrace, and such small stations as Promontory, Lake, Kelton and Matlin. We are still in Utah, and shall so remain for twenty-five miles or so, the line crossing a few miles east of Tecoma. South of the track the Great Salt Lake Desert stretches away for a hundred and fifty miles. A few dry beds of streams, a few green spots, oases in the waste, clumps of cacti, dwarf sage-brush, red and yellow rock, desolate mountain ranges that gridiron the country—such is the region, in the main, until the traveler arrives at the headwaters of the Humboldt at Wells, 614 miles east of San Francisco.

After crossing the Nevada line the typical western towns of Wells, Elko and Carlin are passed, all possessing some especial interest to the traveler.

Along the Humboldt and its tributaries, for many miles, are green meadows and the beginnings of horticulture. The lands of the desert are equally fertile, but the lack of water makes them a part of the enormous empire of the future—the land of the irrigator. Difficult though it now seems, the time will come when capital and labor will restore to the rich and beautiful hollows of the great plateau their ancient and forgotten values. Once, science affirms, there was abundant rainfall here, with all that this implies—grassy plains, forests of huge trees and an abundant population. Now, it is the great, wonderful desert, sometimes level, but more often hewn into shapes that outrival the wildest flights of imagination. It is one of the wonderlands of America. Northward, far off, the southern tributaries to the Snake River flow in deep gorges among the dark mountains of mineral; Idaho lies there with its famous mining camps, its old-time mountain heroes. Southward are scanty desert streams that have no outlet except into land-locked ponds of alkaline waters, and the desert extends to the gorges of the Colorado.

The Salt Lake Division ends at Carlin, 535 miles east of San Francisco, and the Truckee Division begins there. At Palisade a



branch railroad extends southward to the famous old mining camps of Eureka. Another branch line goes south from Battle Mountain into Lander, to Austin. It is 121 miles from Carlin to Winnemucca, quite a large town, named after the most notable chief the Piutes have ever produced. Old Winnemucca managed for a generation to govern his tribe, and still remained on reasonably good terms most of the time with all sorts of whites.

The Piute population of Nevada is said to be steadily increasing. The fact is, Piutes take kindly to some phases of civilization; they swung old Comstock's rocker for him before Virginia City was founded; they supplied the mining camps with wild ducks and juniper stumps; they supplemented every frontier town with a village of wickiups. Now, they cultivate the tourist, and sell him gaudy-colored bows and other aboriginal Brumagim ware. Anyhow, they flourish, and when you see a row of them sitting on the lee side of a rock, or huddled together on a flat car bound for some way-station, you see a set of very independent individuals. When they feel like it, they wander into California, to work in the hop-fields and orchards.

At Lovelocks, 340 miles east of San Francisco, the Central Pacific swings away from the fertilizing track of the sluggish Humboldt River. West by south the railroad extends, in a long sweep, to the California State line, and, until it reaches the Truckee, it again passes over such desert as that east of Wells. The sage-brush is larger, and more junipers appear on the gray hills, but, otherwise, there is little difference. Yet even here, as over immense areas of Nevada, the soil produces a short, nutritious bunch grass, upon which thousands of cattle feed. Springs and green acres lie hidden in the hollows of the mountains. The tourist sees some of the worst and most desolate districts. Anyone who knows the famous cattle ranges of Washoe, Humboldt and Churchill, though in and a part of a desert land, will long remember their surprising value for this purpose, when held in sufficiently large tracts.

The tourist looks down on the tulé and alkali flats of such depressions as Humboldt Lake. Beyond it is the still greater Sink of the Humboldt. Like such lakes as Washoe, Carson, Walker and Winnemucca, these brackish, often strongly alkaline, pools are the remains of much larger bodies of water that once found outlets to the ocean. They swarm with wild fowl in the season; a few, such as Pyramid, a very noble body of water, with many high islands, are also magnificent fishing grounds. Wadsworth, 278 miles east of San Francisco, is a good point of departure to the Pyramid Lake region.

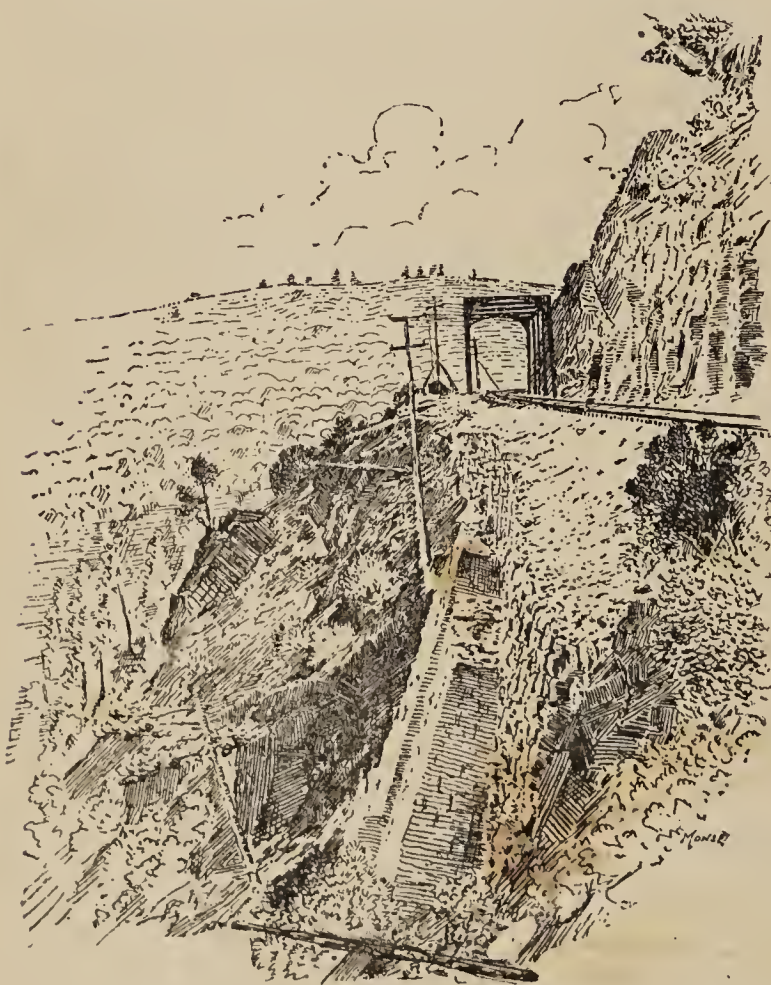
A few more small stations westward bring one to Reno, the commercial capital of Nevada, a brisk and energetic town of about seven thousand people. It lies in the midst of a well irrigated country along the swift Truckee—a long and narrow but very rich district, attractive to the farmer, dairyman and fruit-grower. The State University, and the United States Agricultural Experiment Station are here, and are doing excellent work for Nevada. Two important branch railroads begin here. One, the Nevada-Oregon, extends far north into



Lassen and skirts the eastern base of the Sierra; the other is the well-known Virginia & Truckee and Carson & Colorado R. R. line, affording access to Carson City, the towns on the Comstock and the great mining camps of south-western Nevada and the California border. Hawthorne, Candelaria, Independence, Keeler, and many intermediate towns, are reached on this line.

Reno's history dates from 1868, when it was located by the Central Pacific. There is hardly a town on the line that will better repay a visit. Here one can see a system of irrigation which has transformed the desert into gardens. The river itself is very attractive. Eleven miles from Reno are the notable Steamboat Springs, on a low, gray ridge between the hills, where a host of thermal springs puff white steam-clouds into the air. They are at an altitude of 4,500 feet above the sea. In fact, as every tourist knows, this whole country is far above the level at which people live on the Atlantic slope of the United States. Leaving Ogden, at an elevation of 4,301 feet, the tourist rises at Toano to 5,975 feet, and, in fact, remains well above four thousand feet, except for a few miles about Lovelocks. From this point, however, the grade ascends steadily as we go westward to the California line and the summit of the Sierra.

Historically, the heart of Nevada is the group of old mining



CAPE HORN.

towns in the midst of the Washoe Mountains, six thousand feet above the sea, on the side of Mount Davidson. Here were the unequalled bonanzas of the Comstock, from which over \$400,000,000 have been taken. Tourists often turn aside from the main line and visit the mines on the great lode. They are even more interesting now, in many respects, than when the Big Bonanza was pouring out its millions. The vast underground city dwarfs all one's previous conceptions of mining, and affords new measurements of the gigantic labors of those feverish years when Comstock silver was the magnet which drew ad-

venturers from every part of the world.

West of Reno begins the steady climb of the mountain slope, along the canyon sides, above the tossing Truckee; and the scenery along this mountain-born stream is so wild and romantic, and is such an entire change from the plains, and so suggestive of the rugged Sierra, that it remains strongly marked upon the memory of the



traveler. The State line is crossed a few miles west of Verdi; Boca, 218 miles from San Francisco, population three hundred, is fairly reckoned as the first Californian town. Ten miles west brings one to the end of the division, the important mountain town of Truckee, with a population of about fifteen hundred. Here, as at Boca and other Sierra towns, the ice business has become a great industry since the shipment of fresh Californian fruit began to require the use of refrigerator cars. The lumber trade is very large, many saw-mills being constantly at work in the pineries.

Truckee is also the favorite point of departure for hosts of merry fishermen who seek Donner, Tahoe, Webber and other lakes, or the innumerable trout streams within a radius of thirty miles. Deer have increased so rapidly of late years that, wherever hunting is permitted, sportsmen find it better than for many seasons past. Tahoe is only fourteen miles from Truckee, and there is a daily stage connection. Tourists can easily see this, the finest lake in America, 6,200 feet above the sea-level, and only lose ten or twelve hours of time. It is a slender price to pay for the sight of sea-like Tahoe in the midst of snow peaks and forests.

Still the tireless engines climb toward the clouds. We are 5,891 feet above the sea-level at Truckee, and in fourteen miles we rise to Summit Station, 1,126 feet higher; then the descent begins, and another fifteen miles or so carry us down to about the Truckee level again, though we are still nearly two thousand feet higher than the Lick Observatory on the summit of Mount Hamilton. This notable run, from Truckee to Cisco, is along the granite edges of mile-deep gorges, through costly tunnels and miles of titanic snow-sheds of huge timbers bolted and spiked together. Through open gateways one sees the mountains, immeasurably massive, gray granite and snow piles, dark pines and cedars, flashing rivers and swift waterfalls, glimpses of lakes and snow-fed ponds.

At Lake View, Summit, Soda Springs, Tamarack, Cisco, and in fact every stopping place along this portion of the line, in the summer season people leave and strike out into the mountain land to camp, explore, botanize, hunt and fish. They outfit at Truckee, Soda Springs, Cisco and other points, and then disappear from civilization for weeks at a time. Men of quite another type—professional hunters, prospectors, dairymen, lumbermen—get on and off at these way-stations in the high Sierra. It is their home, often the whole year round, and they are the true mountaineers, who can hardly breathe easily in the valleys. Still others belong here in the summers only, keeping hotels and supplying the wants of the tourist; with the first snow they will hasten to lower levels.

It is thirty-eight miles from Cisco west to Colfax, another noteworthy stopping place, and the descent is 3,512 feet. The stations are all picturesque, some in snow-sheds, others in the open. Famous old names, too, these towns in the middle Sierra belt, the region of superb coniferous forests. Emigrant Gap, Blue Canyon, Shady Run, Towles, Alta, Dutch Flat;—every old Californian can tell stories by the hour about these and similar towns that lie in the forests and on the long Sierra ridges. We are coming into the land



of the gold seekers, the classic realm that Bret Harte immortalized: red hillsides crowded with green growth, oaks, conifers, shrubbery; open slopes flaming with bloom all summer long; deep, wild canyons such as the American River precipices, like Cape Horn, worth a journey across the continent to behold! Beside the track are overflowing water ditches, supplying the towns, the gardens and the orchards.

Below the lumberman's region is the main belt of orchards; but the line of successful fruit growing extends far higher into the Sierra than was formerly supposed, and men are making homes three and four thousand feet above the sea. There is room here for two or three million people on this western slope of the Sierra, in the temperate and semi-tropic zones.

Colfax is the point where travelers take the Nevada County Narrow-gauge to Grass Valley and Nevada City, where deep mining can be seen at its best. These neighboring towns are thoroughly characteristic of the mineral belt of California—large, substantial places, full of prosperous enterprises. Besides the quartz ledges, which continue to hold their own with any of the newer camps, the region is one of abundant horticultural resources. Its mountain farms are rich and profitable, and fruit-growing is carried on upon an increasing scale.

After leaving Colfax, the real realm of the horticulturist begins to show forth. We are still in the land of the '49er, but his footprints are being "planted out" on a thousand hillsides, from Applegate, 2,014 feet above the sea, clear down to Rocklin, 249 feet elevation. Clipper Gap, Auburn, Newcastle, Penryn, Loomis—these are mere names for great colonies of nurserymen, orchardists and gardeners, who dwell in the midst of perpetual blossoms and fruitage. For twenty-five miles, to the very edge of the low foothills that skirt the Sacramento Valley, the succession of pictures of healthy, happy, prosperous industry recall to mind the most beautiful slopes of the Southern Apennines, except that everything is upon a much more extensive scale. Beginning at Colfax with orchards of apple, pear and prune, the orange, lemon, olive, fig and vine soon appear in warm valleys, on terraced hillsides watered from the old mining ditches. Beyond the nearer slopes, quite out of sight, north and south, are other colonies and settlements, fast becoming purely horticultural, because of the rich soil, the cheapness of the land, the abundance of water, and the nearness to transportation and the world's markets. Whole trains of fruit go to Chicago and New York, having a great advantage in point of time over the valley fruits. The white pine of the middle belt of the Sierra is drawn upon for packing cases; the ice of the Sierra lakes goes into the refrigerator cars. This is that unique foothill zone where the fruits and flowers of the whole Mediterranean zone can find a congenial home. It is as fair and beautiful as Southern California, and yet there is so much of it that far the larger part is yet unplanted, and waits for future colonies.

Four miles west and northwest of Rocklin, and nearly a hundred feet lower, the floor of the Sacramento Valley is reached, at



Roseville Junction. Here the Oregon line leaves the main track, but the San Francisco traveler goes on, eighteen miles farther, past small stations and the half-flooded willow bottoms of the broad river, to Sacramento.

West of Sacramento the scenery is quiet and peaceful, though still attractive. The tulés and lowlands are on one side; the fringes of the northern coast ranges, such as the Suisun Hills, the Napas, and the Sonomas, are on the other. Mount Diablo, far south, beyond the river and the Straits of Carquinez, looms up against the sky. The low Montezuma Hills lie on the margin of the Sacramento, south of the wheat fields and orchards of Dixon and Elmira. Fifty-seven miles, through what is really the south-western angle of the Sacramento Valley, but which is, in many respects, as distinct as Napa or Sonoma, bring one through rich Yolo and Solano, to Benicia, by the Suisun Bay, the brisk manufacturing town that was for a short time California's capital city. Here we cross the Straits of Carquinez on the great ferry-boat "Solano," to Port Costa, where wheat ships lie by the score, and mills grind out flour in white rivers; other railroad tracks come in and join the highway. Then, for thirty miles, the track skirts the shores of the bays of San Pablo and San Francisco, past powder works, factories, stockyards, towns and miniature cities; past old adobes, crumbling to ruins; past new hotels; past the University buildings on the seaward slope of the Coast Range; past the borders of Oakland. For ten miles, along the eastern shore of the bay, from the northern end of Berkeley to the southern end of Alameda, there is almost one continuous city along the foothills, and but little of it can be seen from the railroad track. It amply justifies a visit from every tourist.

Lastly, the Bay of San Francisco is crossed on costly and elegant ferry-boats, and after a four-mile journey thus, over waters so nearly land-locked that they seem like a group of inland lakes, the tourist reaches the land's end city of the west.

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### SHASTA ROUTE.

Of the three routes to California from the East, the northern one, having its terminal station at Portland, is certainly not the least interesting; in fact, from a purely scenic standpoint, it is far ahead of either of the others; indeed, it may be said that if the traveler wishes to become acquainted with the characteristic features of the Pacific Slope, both from a scenic and an industrial standpoint, he will acquire on this trip a broader and more comprehensive view than from either the central or southern route; and a few of the arguments to substantiate this statement would be: He will pass through the great Willamette Valley in Oregon, which next to the Sacramento is the most important on the Coast; the picturesque Cascade Range of mountains will accompany him on the east through Oregon; the most wonderful and altogether sublime features of the Sierra will meet him upon the threshold to California, and the snowy Sawtooth Range will stand guard on the sunrise side of the valleys until his journey is ended.



Portland, on the Willamette, occupies a fine commercial position, and has managed, up to the present time, to gather into her business garners the largest proportion of the vast traffic of this young but lusty commonwealth of the Northwest.

Her position from a topographical standpoint is also an interesting one. She sits beside a great river, and her suburbs reach up into the terraced highlands of eternal green forests that skirt the waterways of this entire country.

From the Portland heights in clear weather one may obtain excellent views of Mount Hood, Mount Adams and Mount Saint Helens; and the occasional glimpses of river scenery, as one takes his journey California-ward, are pictures not easily forgotten.

The Willamette Falls, at Oregon City, where the great volume of the second broadest river of the State plunges over a bold precipice, affording a tremendous water power, is the first really impressive sight one notices after leaving Portland.

The great valley of the Willamette, bounded on the east by the snowy Cascades, and on the west by the Coast Range, engages the attention until it loses itself in the jumbled-up and confused masses of the Umpqua and Calapooya Mountains, that seem to link together the great ranges mentioned above.

The picturesque glens in these lesser ranges through which the railroad runs are in their wooded slopes distinctively characteristic of the moist climate of Oregon, exhibiting a wondrously rich and lavish undergrowth of ferns, low shrubs and magnificent specimens of the conifer family.

The Rogue River Valley, which lies just north of the Siskiyou, is the garden spot of Southern Oregon; and the historic table rock which stands guard at its northern end is known as the place where "old Joe Lane" fought the Indians (and whipped them, too), and drove a number of them over the abrupt edge of this historic mesa to a sudden and ignominious death.

Crater Lake, the greatest lake wonder of this, or perhaps any other country, lies on the summit of the Cascade Range in Southern Oregon, which is reached at present by private conveyance from Medford, in the valley of Rogue River. The distance is about eighty-five miles, and the journey may be made quite safely during the months of July, August and September.

Imagine a great downward-tapering oval cup quarried out of the highest crest of the Cascades, nearly eight thousand feet above the sea. This cup is a mile deep, and about twenty miles in circumference, and is half filled with the purest water on earth. There are three abrupt prominences in this crater cavity, two below and one that rises eight hundred feet above the surface of the lake.

The latter, called Wizard Island, was either an eruption on the side of the enormous volcano that once stood here, or was formed after its awful collapse. On the margin of the lake, the walls of which rise from one thousand to two thousand feet above the water, are to be found stunted growths of hemlock. These trees, with their gnarled and matted roots, are sometimes detached from their surroundings and are precipitated into the lake, when the bark rots



away, leaving the wood white. This uncanny, weird, squirming octopus is, with the motion of the water, given a most natural appearance of animation.

The Klamath Indians called these monsters Llaos, or water demons, and ever since one of their number was drawn into the lake by them and afterwards picked to pieces on the summit of a tall cliff on the north side of the lake, no Indian (it is said) can gaze upon its waters and live.

The great point of interest, however, to the sightseer on this route is Mount Shasta, which comes into view as the train rounds the headland just south of the long tunnel through the Siskiyou.

Its elevation is 14,442 feet, latitude 41 degrees 24 minutes, and longitude 122 degrees 11 minutes.

Timber line between 8,000 and 9,000 feet; perpetual snow line about 10,000 feet. The latter is generally given at 40 degrees latitude as 9,000 feet, but in the case of Shasta it probably runs higher.

Distance from San Francisco by rail 338 miles.

The distance in an air line from Sisson railroad station to the summit is twelve miles.

Perhaps the most advantageous point from which the mountain may be seen from the railroad is at Sisson, Strawberry Valley. There are five glaciers on Shasta, one on the south, two on the

east, and two on the north; the most extensive and interesting of these is the "Whitney," which takes its rise near the summit, and on the north, flowing down to the east of Shastina, and clearly visible from Shasta Valley. The others, with possibly the exception of a glimpse of Konwakiton, on the south, near the Red Rocks, cannot be seen from the railroad. The lesser peak, called Shastina, has a well-defined crater cup at its summit, about three-quarters of a mile across, and 1,500 feet deep.

In the volcanic days this lava bowl gave away on the western side and poured its flood of fire and molten lava over the surrounding country. Shasta is seen from the railroad, off and on, for two hundred miles; in going north it is first discovered in the



CASTLE CRAGS.



north-eastern sky from the upper Sacramento Valley. Coming south from Portland the first view to be had is a few hundred yards south of the long tunnel through the Siskiyou.

As an illustration of the magnitude of Shasta, suppose the bottom should drop out, that is, from an altitude several hundred feet above Sisson station, or say half way from there to timber line, there would be left an awful chasm seventy-five miles in circumference.

The trail to the summit is up the great lava trough to the right hand of the view from Sisson. The distance from snow or timber line to Thumb Rock (a sharp projection on the crest of the south flank of the mountain) is between four and five miles; from Thumb Rock to the summit, three-quarters of a mile; from there to Shastina or Crater Peak on the north, one mile and a half.

A relic of the ancient volcanic fires is to be found a few hundred feet below the main summit, in the shape of a hot steam solfatara. The ascent of Shasta is not dangerous, and to persons in sound health and possessing good will-power, not to say very difficult; yet quite a considerable percentage of starters never reaches the highest point, the reason no doubt being that the sensations produced by severe exercise in high altitudes are something alarming; but with care, and the assistance and advice of a good guide, there should be no real danger.

The general rule in making the ascent is to start from Sisson about noon, or in time to reach the upper camp by nightfall, to which point there is a good saddle trail. An early start is made the following morning, while the snow crust is strong, and after from six to eight hours of tramping the summit is reached. This trip is of course not without its hardships. There is as yet no royal road to this old volcano's throat; yet the prospect from it and the experience in reaching it overbalance the drawbacks.

As to outfits it is perhaps not necessary to particularize, as the guides are posted in that direction; yet it might be well to suggest good warm clothing, strong, thick-soled boots (hobnailed and comfortable), a pair of green or blue goggles, an Alpine stock, some good preparation to protect the skin from sunburning, and no superfluous toggery.

In ordinary seasons the ascent may be made from the middle of June to the last of September, yet it is frequently made at an earlier and at a later date.

The view from the summit, it is needless to observe, is one of boundless sublimity: the Modoc lava beds, the giants of the Southern Cascade Range, the Siskiyou, Salmon and Scott ranges, Castle Crags and the deep gorge of the Sacramento, Lassen's Peak and the receding snowy shafts of the Sierra on the south, and on the east a far-reaching panorama of mountain, lake and forest. The eye is gorged with visions of grandeur and magnificence.

Shasta is reached from San Francisco in about fourteen hours; and the time schedule is so generally arranged that the most interesting scenery may be witnessed by daylight.



Muir's Peak is a dead volcanic cone, from which, at a much later date than from Shasta, there flowed lava and other igneous matter, the influences of which were felt upon the entire plateau of Strawberry Valley. The railroad runs around its base; and, if the view from Shasta Valley or the Siskiyou summits should not be quite clear, the sightseer might imagine, as he rounds its formidable bulwarks, that this "butte" compares, in some measure, with Shasta. Such is not the case, yet it is a scenic feature of great interest.

The ascent is attended with difficulty and some danger. The main summit is entirely destitute of verdure, and is a mass of volcanic boulders of every shape and size, piled or thrown together loosely, leaving chinks or crannies which seem to connect with each other; so that, when a stone is dropped into one of these interstices, it goes clink, clink, clinking down into the old volcano's throat, giving one the impression that the slightest vibration might cause the collapse of the whole mountain top.

"The day we made the ascent," says a traveler who recently visited the country, "was warm, and the journey fatiguing. After reaching what was supposed to be the main summit we found a higher peak beyond. To reach this we were compelled to descend into the crater cup, which was sultry traveling. Our drinking water had given out, but the motto of "*nil desperandum*" was beautifully exemplified. To have thought of finding water in such a place seemed utter madness; but, strange to tell, when we had reached the bottom of the depression we found in the hollow of a rock some '*aqua pura*' that must have come direct from the sky; we called it a 'drop o' the Crater.' "

Some thirty miles south of Mount Shasta, and forming, next to Shasta itself, the most noticeable scenic feature to be seen along the California railroads, is a remarkably abrupt ridge of naked granite, known as Castle Crag, rising six thousand one hundred feet above the sea, and something like four thousand feet above the level of the Sacramento River, which flows through its canyon near by. These gigantic, castellated ledges lift their strongly marked peaks in proud isolation, claiming no kindred with their neighboring peaks and ranges.

The Crag belongs to the Trinity Range, a spur of the Sierra Nevada Mountains, and the dividing line between Shasta and Siskiyou counties runs across them. They are distant some three hundred and twenty miles from San Francisco by rail, or about twelve hours' travel.

Near the base of Castle Crag has been erected a spacious and commodious hostelry known as the Tavern of Castle Crag (see page 63), which has recently become one of the noted mountain summer resorts of California. The decided change of air, scene and altitude from those of any of the valleys or towns of the State, renders this spot most advantageous for a summer outing. It would be impossible for one to imagine anything more delightful than a hotel equipped with all the modern luxuries and attributes for making life perfectly comfortable, set away in the heart of the mountain wilds, where pine



forests creep to your very doorstep, and ice-cold mountain streams sing you to sleep at night as they go rollicking almost under the windows of your bedroom.

Several first-class trails have recently been completed from the Tavern to various points of interest, including the Craggs themselves, and to many adjoining peaks on both sides of the canyon, where wonderful panoramic views are afforded. About a quarter of a mile from the Tavern are situated the Soda Springs, whose waters, alkaline and carbonated, containing iron salts, are of great medicinal virtue.

In the vicinity of the Tavern the hunter and angler can find glorious opportunities for their sport.

The ascent of Mount Shasta is considered one of the important features of a visit to the Tavern, and can be made in two days and one night from the hotel. This gigantic, snow-crowned king of the north, a burned-out volcano like an Adam of his kind, stands as a very father of all the marked topographical features for three hundred miles around him. An ascent to the summit of Shasta takes rank in interest with the ascent of Mount Blanc.

While the Tavern of Castle Craggs is known mostly as a summer resort, there is no good reason why it should not be made a winter resort as well. The winters in this region, although crisp and bracing, are not uncomfortably cold; and it is generally conceded that residents of a mildly equable climate would benefit by an occasional change to some extremes of temperature.

All down the blue picturesque canyon of the Sacramento the interest of the sightseer never flags. There are to be seen occasionally pitiable remnants of the Wintun Indians, and at the mouths of the side canyons there are long winrows of rounded boulders, relics of the hydraulic mining days; then there are quartz mines in active operation, for this is one of the richest gold-mining districts in the State.

At Redding the head of the Sacramento Valley is reached, and the remaining 260 miles of the journey run through the richest and most highly developed agricultural section on the Coast.

The great northern citrus belt, that lies on the western slope of the Sierra, is skirted for a distance of a hundred miles.

The vast vineyards and wheat fields of the valley proper, and the extensive fruit ranches of the lower foothills, give evidence of the plenty and prosperity that reigns in this favored land.

All the way from Redding to Sacramento the mighty snow tents of the Sierra bound the eastern horizon, while away to the coast the dark-blue line of the Coast Range, forest crowned and rugged, marks the most westerly mountain chain of the continent.

At Roseville Junction, eighteen miles from Sacramento, the Shasta Route joins the Ogden Route, and the description of the remaining portion of the trip will be found on page 25.



## General Elements of the Picturesque.

The picturesque elements in California are wonderfully varied. No other land has such a diversity of phases in this regard. The landscape-setting itself is most pictorial. Whether the aspect be of the spring, wild-flower season, enameling the face of the earth with prodigal masses of purest color,—azure, white, pink, red and orange; the rich, velvety brown tones that clothe the hills during the so-called “dry season;” the glowing, jewel-like green of orchards and vineyards; the deep coloring of bush and tree growth in canyon and forest; or the strong accents of tone along the seashore,—the effect is always charmingly artistic.

California is peculiarly opulent in special picturesque points. She has in Yosemite her own private Niagara, with accessories that the boundary cataract never offered. Her Big Trees are entirely

*sui generis*. Her cascades, lakes, caves, petrified forests, mysterious, isolated Channel Islands, vast, whispering pine forests—these and a thousand other features she has to delight lovers of the picturesque, from the standpoint of undecorated Nature. But the devices of man have done much to enhance the natural attractions.

The relics and traces of the aborigines fascinate the student of archæology as the lavish material in natural resources does the botanist and mineralogist. The impress of Spanish-American life still lingers. We can hear yet the echo of alabados and litanies chanted by the Padres.

The flavor of pastoral California still remains. The staunch pioneers have not yet all passed over. And the later gold-seekers, too, are well worthy of study—they who dig for gold, not in nuggets, but transmuted through the allotropic forms of wheat and corn, milk and honey. And these seekers of the Golden Fleece are those who most abound to-day in California.

Local industries may be, and California's are, full of picturesqueness. A bee ranch has fine local color. Why has no story-writer taken one for a background? What can be more charming than a vineyard, with its graceful vines, its jewel-like clusters of purple yield, its honeyed fragrance? Or an orange grove, loaded at once with ripe and green fruit, and perfumed blossoms? The almond orchards, wheat-fields, fruit-packeries, bean-fields, wineries—almost every line of labor in the State has peculiar picturesqueness.



EL CAPITAN.



## Mountains and Forests.

The best-known mountains of the State are Mount Shasta, Lassen Buttes, Mount Diablo, Mount Hamilton, Mount Tamalpais, Old Grayback, Mount San Bernardino, the peaks around Yosemite and those lying on either side of the Central Pacific track from Colfax to Truckee; while these are all interesting they represent but a few of the great earth giants of the State.

The Sierra Nevada extends along the eastern side of California for about 480 miles, with an average width of seventy miles. According to the State Geological Survey there is an area of two hundred square miles in a section of this range that has an elevation of eight thousand feet, with over one hundred peaks that rise above ten thousand feet, a score reaching 12,500 feet, and several over fourteen thousand feet.

The highest mountain in the United States is Whitney, which has an elevation of a trifle over fifteen thousand feet. The view from its summit is awe-inspiring in the extreme. "Deep down, the Kern River is seen, gleaming amid rock and ice; the northern sea of peaks flashes in the sunlight or is darkened by storm clouds; the rocky tower of Mount Tyndall is seen thrust up through the rolling billows of clouds; streams of mist float in and creep slowly through the walls of the precipice below; down over four thousand perpendicular feet of granite are small sapphire gems of Alpine lakes, bronze dots of pine, and here and there a fine enameling of snow."

The heavy forests of the State are confined to the Sierra and Coast Range of mountains, and the somewhat disconnected group of mountains that joins these ranges upon the north and south. The merchantable timber of the Sierra is chiefly confined to a belt on its western slope of an altitude ranging from three thousand to seven thousand feet, and consists chiefly of sugar and yellow pine, red and yellow fir, spruce, etc. The sugar pine is the largest of the California species as well as the largest pine tree in the world. Next in size and importance comes the yellow pine, which grows everywhere along the Sierra. The redwood, or *Sequoia Sempervirens*, is the principal tree of the Coast Range, and is the most valuable and merchantable timber in the State; it is easily worked, does not rot readily, and has a very fine grain.

Of other tree growths in California the oaks fill an important place and are widely distributed over the State. The chestnut oak is especially valuable for its bark for tanning purposes.

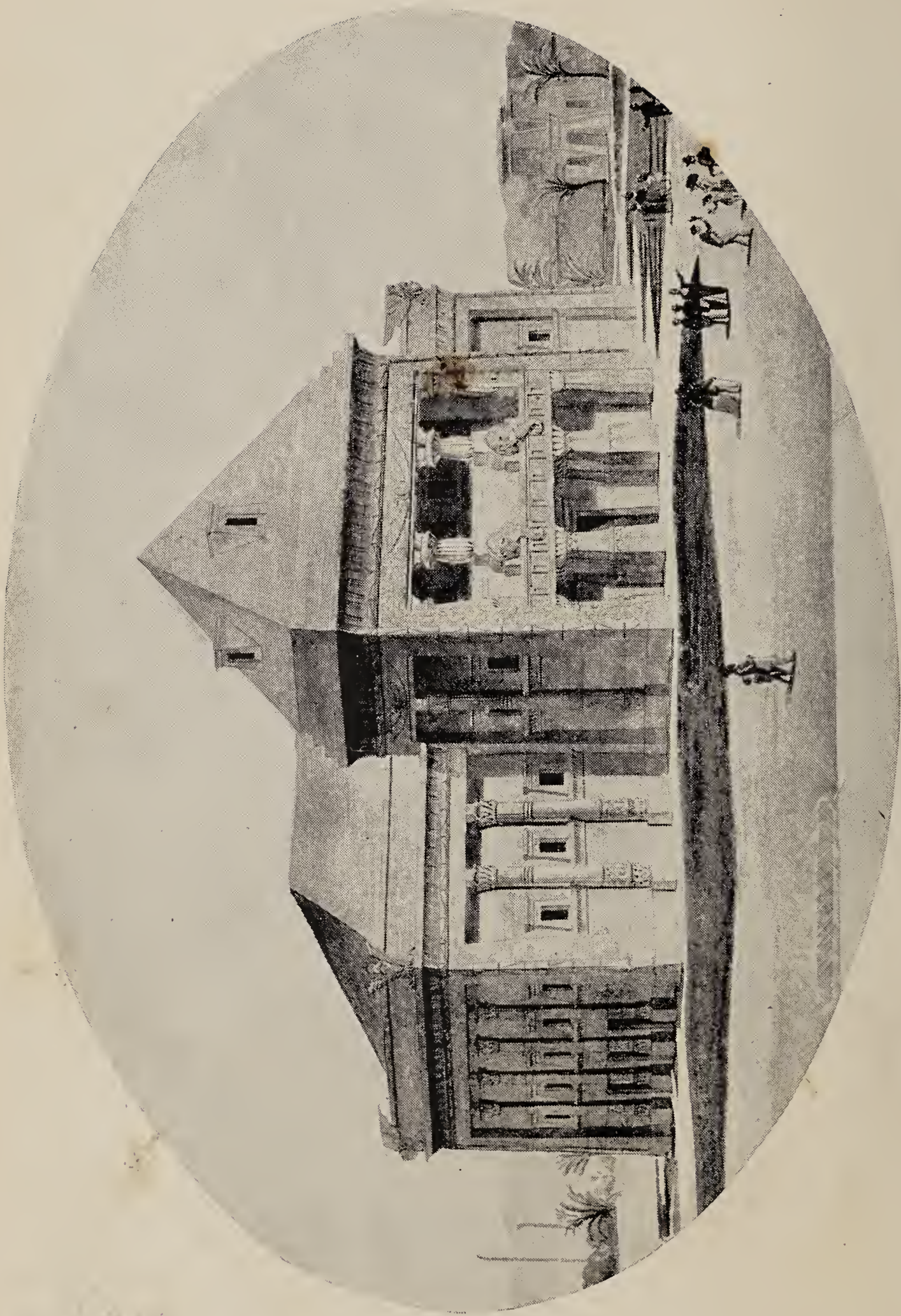
The California laurel, extensively used in ship-building, is a splendid tree, as is also the native bay, the wood of which is very valuable for cabinet-work. In addition to the above-named trees we have the alder, ash, cypress, maple, poplar, madrona, buckeye, willow, cottonwood, walnut and many other beautiful trees. Beside the opportunities for investment in timber lands and the large returns that usually accompany lumbering, California furnishes to the forest rambler a field of intense interest, the forest flora being so entirely different from other sections of the Union.





MOUNT SHASTA, FROM STRAWBERRY VALLEY.





FINE ARTS BUILDING, CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.



## Influence of Climate.

The influence of climate on the picturesqueness of a section is not enough considered. If the natural surroundings are attractive people accept them as a matter of course, without reflecting that they are largely, it might almost be said entirely, contingent on the climate. On the other hand, when travelers make picturesqueness an objective point of their movements, they certainly should take care to learn if the climatic conditions of their contemplated goal favor such a requisite.

The characteristic features of a landscape—have you ever thought of it?—are directly contingent on this factor. The coloring and form of floral and arboreal growths depend largely or completely on the climate. It is their suitability to their situation that makes them so pleasing and striking to the observer. What character is given to a view by the presence of an orange-grove, a hop-field, a great, orderly yet artistic, cluster-laden vineyard! But could these exist in high or cold latitudes? A very queer aspect would appear in a group of palms, a thicket of vines or cactus, fig or olive, in the bleak surroundings of a New England setting.

It is *climate* that makes certain features recognized as characteristic of and appropriate to any given section. Even the local architecture—and who does not know how much of accent the grace-notes of houses contribute to scenery?—depends on the requirements of temperature and weather. In a warm, mild, beneficent climate, homes may be built with consideration toward effects of beauty that could not be indulged in in a cold, rigorous region. The porches and gables and ornamentations that would be uncomfortable and annoying wind-traps in a region of storms and squalls, may be indulged in with impunity and pleasure in a section where reigns calm, equable weather. The bright red roof and gaudy finishings that would look preposterous under the unobstructed glare and in the conventional contrasts of a city street, add to the appearance of beauty and comfort in a rural locality, where the rawness of the color is tempered by juxtaposition with the greens and browns of the luxuriant foliage of a balmy climate.

A thousand and one little details and modifications of architecture, all lending picturesque charm, may be adopted in an auspicious climatic situation. This is the most important agent, too, in the arrangement of the grounds of estates. The grounds and gardens of homes in California are justly famous, but their cultivation to the existing degree would not be possible under less favorable skies.

Public parks and squares are subject to these circumstances to an exceptional extent. Where else in the world would it have been possible to develop, inside of twenty years, too, a plaisance like the Golden Gate Park in San Francisco? It had for a foundation only waste land—sandhills—yet see it to-day! It is not only a question of



creating, but of preserving. California has no raging storms, no cyclones, to destroy in an hour the result of long years of labor and liberal expenditure, it may be, of money. Here the advance in beauty is regularly and steadily progressive, from week to week, from year to year. The man who beautifies a home for himself may reasonably count, so far as concerns natural agencies, on that home going into the hands of his grandchildren more beautiful than ever. In this country hereditary estates would be worth having, continually increasing in beauty and in value.

It has long been a standing joke that Californians sold their climate and threw in the land as a gift. But there is no joke at all about the climate-selling proposition. It is estimated that, during the first six months of 1893, fully five million dollars were expended in Southern California by people who came to this Coast with no other object than to escape the rigors of an Eastern winter and enjoy the sunny climate of the Golden State. If that is not selling climate at round figures, what is it? And what is there particularly funny about buying climate? There is nothing more intimately concerned in the enjoyment of life, and men pay fancy prices for what adds to their pleasure. If one can save what he would otherwise expend for coal, and invest it in open doors, fresh vegetables and fruits, and blooming flowers, he has certainly added to his enjoyment of life, if he be a rational being. Furthermore, if an acre of California soil could be laid down, with all its productive power, anywhere in the East, it would sell for as much money as it does here, even if the owner had to hibernate for four months every winter and build a bomb-proof cellar for summer contingencies. To many people, climate may be worth more than land, and the kind we have would sell readily without a real estate attachment, if a title could be given. Still, it must be admitted that the California climate has certain deficiencies. The man who revels in a blizzard will better remain elsewhere—we do not raise them. Cyclones and hurricanes, too, are lacking, and the storm-cellars brought here would rust out—be sheer waste of good material, essential elsewhere. The tremendous snowdrifts that sadden the heart and chill the extremities of the Atlantic coaster can be had away up in the high Sierra in the depth of winter, but honesty compels the admission that it is not worth while to go there for them when they can be had without stirring in so many other parts of the United States. Also the epicures who yearn for the sensations and excitements of ice-packing, etc., after a sunstroke, are fairly warned that they can never procure them in California. These are luxuries that we are denied by our climatic conditions, and the same causes deprive our dogs of the delights of hydrophobia.

But, jesting aside, a peculiarity of California that strangers have difficulty in comprehending is, that one may find here, during the winter season, and within a short distance, almost any variety of climate—even on the snow-crowned heights drifts deeper than any he has seen in his Eastern home; for California's specialty is in surpassing other States, even in their own specialties. Within twenty-five or thirty miles may be found all the gradations of



climate between the balmiest spring or early summer weather and the severest storms of midwinter. From the tremendous snowdrifts of impenetrable extent down to the orchards laden with golden fruit, trees white with redolent bloom, and gardens ablaze with every imaginable shade of floral color, is an extreme range, yet it may be found here, comprised within a space not exceeding twenty miles in an air line.

The explanation of this seeming impossibility is simple enough. It lies entirely in the fact that a difference of several thousand feet in elevation supplies all the variations of climate from one extreme to the other. It is the genial character of the climate that has given to California her greatest popularity, particularly with those whose health has become so impaired as to render the severe climatic conditions of the East insupportable and dangerous. Because of this wide range of climate, to be found with ease here, this Coast is already a favorite resort for invalids, as well as pleasure-seekers; and as time goes on, and the advantages become more widely known, this State will undoubtedly become one of the leading health resorts of the world, equaling, or even surpassing, Nice, Mentone, the Riviera, and most other localities of the Old World most favored in this respect.

In many of the States east of the Rockies, and even in Florida, so vaunted as a health resort, men in outdoor pursuits are compelled to shield themselves from mid-day heat, or they are liable to sudden prostration and brain fever from exposure to the sun's rays. In California sun-stroke is unknown, and the laboring man works the whole day without suffering from the heat, except possibly in some portions of the interior valleys, where for a few months in summer the thermometer stands above  $90^{\circ}$ . But, with this exception, the areas covered by the Mojave and Colorado deserts, and the highest summits of the Sierra—every locality enjoys about three hundred delightful days out of the annual 365, and outdoor work is as free from danger, and even more pleasant, than the coolest days in midwinter. The heat at  $90^{\circ}$  in the East is more disagreeable, and more dangerous to life, than one hundred degrees here, and so California has the advantage over all other countries, being equally a resort for summer or winter.

It is easy to predicate what will be the effect of such conditions on the industries of the country and the occupations of the people. The ease and comfort and safety of outdoor labor will inevitably increase to an extremely large percentage the proportion of the population engaging in outdoor industries, and to the flourishing of many forms of employment much less acceptable and less advantageous under other circumstances. Not only does Nature tolerate man's enterprise and industry in these directions, but she markedly assists and expedites them, putting a premium, as it were, upon them.



ALCATRAZ ISLAND, SAN FRANCISCO BAY.



In horticulture and viticulture, for example, not only the facility and comfort of the worker, but the luxuriant and continuous growth of his staples, uninterrupted by the hibernation of severe winters, must be considered.

In nature there is no such thing as a standstill--there is movement always, either forward or backward. In the extreme climates of the Eastern States there is a backward winter movement, which must be retrieved the following season; in California it is steadily forward the year round. This even includes the non-fruiting time, when, of course, there is a diminished growth, as is essential to the conditions of repose, but no "setback." This makes, naturally enough, the pursuits of husbandry, in one form or another, the preferred enterprises in California. The variety of soil and climate makes the choice of a particular field a most satisfactorily wide one. Immense acreages are devoted to cereals of the highest grade and most productive yield. The bean interest is already large and rapidly extending. The culture of deciduous fruits and olives is the predominating interest. The citrus fruits, orange, lemon and lime; vineyardry and its consequents, wine-making and raisin-curing; the breeding of fine stock,—these and many other pursuits of less wide following are occupations affording not only fine profits to their promoters, but congenial and healthful employment to those directly engaged in their development. The conditions here permit labor in these fields, without inconvenience, and even with direct physical benefit, of many men to whom such labor, in a less genial climate, would be painful or perhaps fatal. The contingencies, for instance, of early plowing, in a capricious and violent climate, are always to be dreaded. A sudden cold storm may destroy not only the crop in hand, but the lives of any or all of the men engaged in its preparation and production, if they have the slightest disposition toward pulmonary delicacy. But no such calamity is to be apprehended in the settled and stable climate of California. The miseries of snow and ice (in season or out); of sleety, chilling, marrow-piercing weather; of sunstroke; of death by lightning while exposed to a gathering tempest, in the effort to save from its ruin the crop that may mean the entire profit of a season; the blight of a blizzard or a cyclone; the destructive besom of a grasshopper invasion, with the attendant physical exertions; the nervous tension and strain; the subsequent reaction,—these are disabilities from which the California farmer does not suffer: they are foreign to the climate. Their absence, it will clearly be seen, is a guarantee of the capability of men somewhat enfeebled to undertake with impunity work which they would not dare to assume under the former conditions. But their discharge of such duties in this country will be not only without injury, but positively beneficial, insuring, as it does, the essentials of outdoor exercise and fresh air, with a definite object and hopeful purpose. All physicians will insist upon these as two of the principal factors in a successful recovery from illness, and surely nothing can be more inspiring to a man who has entertained apprehensions for his future, than to feel that he is not only not incapacitated from further usefulness, but is actually furthering



and increasing the chances for his total recovery whilst pursuing the ordinary course of his vocation and struggle for maintenance; for the consideration of being shelved and useless, perhaps a burden to one's family, is the most terrible and the most adverse to recuperation of all the difficulties that beset an invalid.

California thus adds to the province of physical restorer the functions of spiritual support and encouragement. Nothing could contribute more efficaciously to amelioration of illness than such a moral tone of calm and hopefulness. It gives stamina and serenity. The habit of faith and confidence grows, and, more than that, it is inherited. The man who has acquired reliance on his surroundings and their benignant consequences will transmit that feeling to his children, and so endow them, from their very birth, with a sturdy and sanguine disposition, which is one of the strongest elements in the matter not only of resisting disease but actually of warding off its approaches. This means, in both generations, a placid and well-balanced temperament, not apt to make subjects to nervous prostration or any of the abnormal conditions, mental or physical, that result from excessive or unsuitable work, under unsupportable conditions, anxiety or other overstimulation or strain of the nervous powers. Many an invalid has come to this country, broken down, depleted of strength, and hoping from the change nothing better than alleviation of his sufferings, and a certain degree of comfort for the brief span of life still remaining to him, who has regained not only all his former vigor but acquired more robust powers than he ever possessed before, and started in again, literally with a new lease of life.

As special cases always illustrate better than generalities, it may be well to cite here at least one case, that of a resident of the Ojai Valley, in Ventura County, who, a decade ago, reached California in a state of unhealth that to him and his friends seemed to condemn him to death within the season. He was further handicapped by seriously impaired fortunes in a financial sense, and from



BIG-TREE GROVE, NEAR SANTA CRUZ.



the disabilities of his malady he had been forced to abandon his accustomed business, that of banking. He assiduously avoided the confinement which the counting-house entailed upon him, and courted to the utmost the benefits to be derived from open-air movement and abundant exercise. The traveling facilities of those days were very limited in that section, where the railroad had not yet penetrated, and he was often exposed for hours at a time to the severest rains known to the winter season of California, and constrained to strenuous exertions at times in traversing overflowed canyon roads in going to and from his base of supplies. Notwithstanding this, and continual personal attention to labors such as country life entails, but which were quite unwonted to the city-bred man of clerical habits, his health improved steadily and continually, and he is now in the enjoyment of excellent health and spirits, surrounded by a lively and interesting family—all native sons and daughters—and master of a handsome estate akin to the wide domains of his native “Ole Verginny,” which he has mostly earned in these few years. Here is one man who thoroughly believes in the climate of California. And the State boasts hundreds—yes, thousands—who, like him, coming hither with no stronger hope than that of temporary relief or mitigation of suffering, have found complete benefit and restoration to health, and withal business prosperity.

Thus the single element of climate proves to be the chief attraction of California. Fertility and mildness promote industries that enrich, without exhausting or enervating, the people who develop them. The modified labor exercises and strengthens the bodies of our citizens while advancing their worldly interests. The sense of comfort, security and prosperity builds up serene and well-balanced temperaments, and leads to the establishment of a lofty moral tone in the community. And meanwhile, by the gratification of the artistic and æsthetic sides of human nature, the spiritual is toned and invigorated, distinctly and unquestionably as a result of California climate, in the direct relation of effect from the casual elements of her exquisite skies, her atmospheric effects, her balmy air, the richness of her floral endowment, her color scheme of gold and green, and the smiling beauty of her scenery.

Following is a comparative temperature table of points in California and points in a corresponding latitude on the Atlantic Coast:

Mean of Year.	Mean of Winter.	Mean of Summer.	Latitude.	POINTS IN CALIFORNIA.	POINTS ON ATLANTIC COAST.	Latitude.	Mean of Summer.	Mean of Winter.	Mean of Year.
.....	.....	.....	42°	Yreka.	Boston .....	42°	69°	28°	48°
63°	45°	88°	41°	Redding.	New York....	41°	71°	31°	51°
64°	48°	83°	40°	Chico.	Philadelphia..	40°	72°	34°	52°
60°	49°	74°	39°	Sacramento.	Baltimore.....	39°	73°	33°	53°
56°	51°	60°	38°	San Francisco.	Washington ..	38°	76°	36°	56°
57°	52°	64°	37°	Monterey.	Richmond ....	37°	75°	37°	56°
63°	50°	85°	36°	Tulare.	Norfolk.....	36°	74°	36°	54°
61°	53°	68°	35°	Santa Barbara.	Raleigh.....	35°	76°	42°	60°
65°	58°	73°	34°	Los Angeles.	Atlanta.....	34°	80°	48°	64°
61°	54°	68°	32°	San Diego.	Savannah.....	32°	81°	53°	67°



## Cities and Towns.

**San Francisco** is unique among cities. It is not her history that gives the charm, nor the picturesque, romantic surroundings, the cosmopolite life thronging her thoroughfares, her position as gateway for the West of our continent to the whole outside world, not the swing and dash of life here, but a combination of all of these, that gives the city her incomparable charm.

The first sight of the city from the deck of an Oakland ferry-boat is sufficiently picturesque, for San Francisco from this aspect resembles some great bronze monster couchant, with head stretched toward the Golden Gate. The cuts of the streets across the high ridge along "Nob Hill" and down that plane toward Market Street represent realistically the serrated back of this monster, and the outlines are remarkably accurate. Giving life to the pale-green waters of the bay lies a forest of shipping along the sea-wall, and hundreds of craft at anchor bespeak the heavy commerce, foreign and local, and lend life to the prospect. Beyond the curling factory smokes and the heterogeneous outlines of the city may be noted the rocky prominences of the Mission Hills in the distance. To the right of this westward view lie the Marin County Hills and Tamalpais, also the approaches to the Golden Gate—all picturesque and interesting.

From the moment the stranger enters the ferry-slip his attention will be attracted by the great number of cable cars clustering about that center, and as soon as he takes in the effect of the steep hill-sides he will thoroughly appreciate this splendid system, which makes accessible, by a rapid and economical means, the elevated and most desirable residence localities, as well as the points of picturesque interest. Cable railroads are a California specialty and invention, the first one having been constructed and operated in San Francisco in 1873. Its advantages were so thoroughly recognized that now nearly every street railway in the city has adopted the plan, and the result is a thoroughly equipped and constructed system of local transportation. By its transfer arrangement almost any two parts of the city are in connection by a one-fare passage.

Many persons consider that the leading point of interest in San Francisco is the Golden Gate Park, to be reached in about half an hour for a five-cent fare from the center of the city. This park contains 1,040 acres, and is the only park on earth having a sea-front. It contains also many other unique features.

Perhaps next to the Park in importance are the Cliff House, Seal Rocks and Sutro Heights, seven miles from the city-front, for a ten-cent fare. The Cliff House perches on a jutting crag; from its balconies may be tossed a missile into the angry surf eternally breaking on the rocks beneath. A few hundred yards from the shore are the Seal Rocks, where the howling, yelping sea-lions make their playground and *solarium*. From the balcony of this hostelry



may be seen, in clear weather, the Farallone Islands, the veritable "Land's End" of America, carefully shunned by mariners. From Point Lobos, not far from the Cliff House, is had a fine view of the Golden Gate, the Marin Mountains, the lighthouse, etc. Above, on the beetling bluff, is the Sutro Garden.

San Francisco Bay is replete with interest for the tourist. In its vast area the State of Rhode Island could be set down with space to let. It includes the bays of San Pablo and Suisun, with hundreds of miles of connecting straits, creeks, sloughs and rivers. The most



SAN FRANCISCO.

notable feature of the bay is Alcatraz (Spanish for pelican) Island, a partly fortified garrison with seaward leveled guns, and the military prison of the

Pacific, which, in case of war, would be the most important point in the vicinity. A mile or so farther north is Angel Island, also a military reserve. Permission to visit these islands may be had at the Army Headquarters. Other military points worth a visit are, the Presidio, Fort Winfield Scott (Fort Point), Fort Mason (Black Point), and the Navy Yard at Mare Island. These points may all be seen on one circuitous trip of nearly one hundred miles, every mile of which is full of interest, comprising, besides these, "The Heads," or pillars of the Golden Gate, Telegraph Hill, the waterfront and City of San Francisco, Union Ironworks, Hunters' Point, Coyote Island in San Mateo County, the Alameda shore past Oakland, Alameda and Berkeley, entering San Pablo Bay, visiting Raccoon Straits, past Belvedere, Sausalito, and back again to the ferries.

In a comparatively small space may be found here a notable variety of phases and types of Mongolian life, which, in any large Chinese city, could be inspected only at considerable risk and peril, though here in perfect safety. Besides "Chinatown," some more attractive points are the State Board of Trade Rooms, State Mining Bureau, Academy of Sciences, U. S. Mint, Geographical Society, and the various social and literary clubs.

San Francisco, being the commercial and railroad metropolis, is the point from which to make trips to every place of interest in the interior.

Across the bay, eastward from the metropolis, lie "the Bay Cities," Oakland, Alameda, Berkeley, etc., occupying portions of the San Antonio Rancho, granted in 1820 to Luis Maria Peralta. In these beautiful cities are the homes of many people doing business in San Francisco, as well as of thousands all of whose interests lie at hand.

Oakland, incorporated as a town in 1852, with hardly one hundred inhabitants, is now a city of nearly sixty thousand. It is flourishing and prosperous, having many factories, besides the business which it enjoys as the terminal point of the Southern Pacific Railway.



Alameda, laid out as Encinal in 1854, now has some eleven thousand inhabitants. It is a beautiful town and most healthful, owing to its natural sanitary facilities and artesian water. It is called "The Island City."

Berkeley, laid out in 1872, is the site of the State University, credited with property worth \$350,000.00 and the State Asylum for the deaf, dumb and blind.

On the Marin shore are the lovely towns of San Rafael and Sausalito, frequented as summer residences by the elite of San Francisco.

**Stockton.**—With the first party of Americans who traversed this part of the San Joaquin Valley—Captain Barteling's band of thirty men, who arrived in the early 'forties—came Captain Weber, who secured a grant of eleven square leagues in what is now San Joaquin County, and there established the trading post of French Camp, afterwards re-named Stockton. The town was surveyed in 1848, and on the discovery of gold, it became the center of traffic for the southern diggings discovered by Weber's party, after which its growth was rapid. It was made the county seat when the county was organized in 1850, and, ever since, it has maintained a steady growth, until it is now the chief manufacturing point of the interior, especially for the agricultural implement industry. It is enjoying a steady and permanent prosperity. One of its greatest points of vantage is its ample facilities for import and export by rail or water; it is also the center of a vast agricultural country.

**Sacramento.**—Intimately associated with the most thrilling and important scenes of California's early record, the history of Sacramento is in some sense that of the State. In 1839 Captain Sutter arrived on this Coast, and obtaining from the Mexican Government a grant of eleven leagues of land near the junction of the Sacramento and Feather rivers, he

built Sutter's Fort, whose position naturally made it the halting place for most of the hosts that poured into the State on the discovery of gold. Then sprung up a town, the starting place for men and goods bound for the mines. Being first surveyed in 1848, the town quickly attained a large size, and it was made the



STATE CAPITOL, SACRAMENTO.

State capital by the first Legislature. Extensive car-shops for building and repair were located here, as well as a central terminus, giving employment to several thousand men. Here, too, have been established various manufacturing industries, for which the place possesses advantages of a high order. The present



population is about thirty thousand, and is constantly on the increase. Here may still be seen the old edifice which was a part of Sutter's original fort.

**Fresno.**—This, perhaps the chief of the “new” cities of California, owes its existence entirely to the construction of railways and the inauguration of great irrigation and horticultural enterprises. In 1872, when the Southern Pacific was extended southward through the San Joaquin Valley, the name Fresno (Spanish for ash tree) was applied to the straggling hamlet around that station. Two years later its growth warranted its being made the county-seat. Then were instituted irrigation enterprises, which soon made Fresno the center of a system of colonies that have added millions of wealth to this region and given the city world-wide fame. More than half the enormous raisin crop of the whole State is produced near and shipped from Fresno, and immense quantities of other fruits are grown also. The population of the city already is over ten thousand, and is receiving constant accessions. Fresno has the deserved reputation of being one of the best business points in the interior, while its horticultural surroundings and operations are exceedingly picturesque and interesting.

**San Jose.**—“The Garden City,” as its residents love to call it, is one of the State's oldest settlements. Its mission, Santa Clara, was founded in 1777, and the secular settlement, the San Jose of to-day, later in the same year. Santa Clara was one of the largest and most prosperous missions, and San Jose, reflecting its importance, very soon became a place of note on the Coast, and has always maintained this prominence. This was especially a place of resort for foreigners, who made their way to this Coast in the early part of this century. First of these was the first settler at Gilroy, John Cameron, who came in 1813. Most of the Americans who came to California prior to the gold discovery settled in or near San Jose. At the time of the discovery of gold this was one of the largest towns in the State. When the Constitutional Convention met at Monterey, in 1849, San Jose was designated as the State capital, though this was afterward changed in favor of Sacramento, without, however, impairing the prosperity of San Jose, which has grown steadily until it is the fourth largest city in the State, and one of the largest fruit-shipping points. It is one of the handsomest and most attractive towns on the Coast, having fine public buildings and miles of streets lined with comfortable and elegant homes. The Leland Stanford Jr. University, near by, has added another leverage to San Jose's advantages.

Besides these cities, many others are full of charm for the stranger, notably the following: Paso de Robles, whose thermal springs are of an agreeable and health-restoring quality; San Luis Obispo, still holding much of the charm of pastoral California days, rich in dairies and golden farm lands, and sea-gated by pictorial Port Harford; following the Coast Division of the Southern Pacific down through the Santa Ynez Valley, are Santa Ynez and Los Olivos, the bowery Gaviota Pass and beauteous Elwood.



**Santa Barbara**, on the channel, is balmy, flowery and healthful, noted for her artistic old Mission, her flowers and her annual Floral Festival. This city is one of the great winter resorts of the State, and boasts justly of a climate unequaled for equability and mildness of temperature. The beach at this point is a great attraction, and sea-bathing may be indulged in the year round. San Buenaventura, by the sea, is quaint, with a singular charm of mingled ancient and modern phases, and a back country of canyons, hot springs, trout streams, and scenic attractions unsurpassed in California. This little town is the *entrepôt* of the oil-well country of the Sespe and tributary canyons, where the sights are as curious, albeit entirely different, from the petroleum districts of Pennsylvania. Then past the "Home of Ramona," at the Camulos Rancho, and a number of small towns and villages.

**Los Angeles** is one of California's most famous as well as oldest cities. Its Mission, San Gabriel, was third in order of founding, and in 1781, thirteen years after the first arrival of the Spaniards, was established its attendant military post, which, with its church, etc., was dedicated to "Our Lady of the Angels." At this time, twelve adult males, with their families, composed the white population.

Many Indians lived near, however. After the segregation of the Missions a motley population of all races gathered here, including many Americans, so that the *pueblo* held quite a number of these when the war with Mexico broke out. After the gold discovery they soon preponderated in numbers, and Los Angeles became the leading point in Southern California

—the great outfitting depot whence goods were transported by team to the entire Southwest. Growth was steady, but slow, until railroad communication was opened, first with San Francisco and points in the south, then with the East by two transcontinental lines. From its first decided impulse in 1875-76, the growth has been rapid, especially in the last six years, which have metamorphosed the place into a really great modern city. Its public buildings, schools, mercantile establishments, cable and electric roads, and other institutions, are up to the highest standard of development; and new enterprises for the section's benefit are constantly fomented. The people are most progressive, filled with profound



CHINATOWN, SAN FRANCISCO.



admiration for and confidence in their city, its advantages and future. They seize every opportunity to advance its interests.

In the circumjacent country lie the beautiful towns of Pasadena, "The Crown of the Valley," Riverside, of pomological pre-eminence, San Bernardino, Cucamonga, Pomona, and half a hundred smaller but not less interesting settlements.

Following down the Coast come Anaheim, the mother-colony of Southern California, Santa Ana, San Juan Capistrano, Westminster, Oceanside and San Diego, with its fine open bay, its magnificent back country, and its unique and fine seaside resorts. Not one of all these towns, large or small, but will well repay a sojourn of some days at least, and most of them would supply resources for a stay of some weeks.

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## Irrigation.

Irrigation has been practiced in this State ever since the foundation of the missions by the Padres nearly a century and a quarter ago. The Mission of San Diego was established in 1769, and one of the first things done was to construct an aqueduct or acequia for the purpose of conveying water to the growing crops and the orchard and vineyard that were planted from seeds and cuttings brought from Mexico. To this day, about many of the ruined missions may be seen the ruins of the old systems of reservoirs and acequias which were built by the Indians under instructions from the missionaries, who had learned the value of irrigation in Mexico, as well as the best manner in which to divert the water from the parent stream and convey it to any desired point. There is no proof that irrigation was ever practiced by any of the pre-historic races that once inhabited this State, as was the case in Arizona. The proof on that point in that Territory is overwhelming, and it would seem strange that the practice should not have been known to the ancient Californians. Beyond a suspicion that it may have been used in some of the arable valleys on the border of the Colorado desert, nearest to the Arizona line, there is nothing, however, to show that this necessity for the production of crops in these entirely arid regions was known to or practiced by the aborigines on the western side of the Colorado River. Whether the Indians knew anything or not about the practice of irrigation, it is certain that the Padres found in them apt scholars, and they have continued to be so ever since.

It was, doubtless, due to the excessive use of water that the orchards and vineyards of the missions so readily succumbed to disease and decay, and so few traces of them remain, for be it known that too much irrigation is apt to prove as fatal as too little.

The great irrigation projects that are already established, and those that are being projected, will place the State beyond the fear of "a dry season," as the snow granaries of the Sierra Nevada are certain to be re-stocked every winter; and they are just as sure of melting and sending their treasures down into the valleys as that summer will follow spring.



## The Yosemite and Big Trees.

Why should American citizens go to Europe for sights of delight that can be had as well in their own country, of equal or greater quality, and at far less cost? Why travel to Switzerland for scenery surpassed in the Yosemite, and equaled in many other parts of California? Of the numerous cascades and cataracts visited by tourists in Europe, that of Gavarnie, in the Pyrenees, the highest of all, whose vertical descent is 1,226 feet, cannot compare with the Yosemite either in height or volume. The Staubbach, in Switzerland, is about as high as the Bridal Veil, but the water is so small in quantity as to be insignificant by comparison. The Aar Fall, at Handek, is not so imposing as either the Vernal Fall or the Nevada. The Voring Foss, in Norway, is generally admitted to be the finest waterfall in Europe, but prime authorities, who have seen both, relegate to it an importance inferior to the Yosemite. In fact, taking the whole region of this valley, with its five great falls, the lowest of four hundred feet and the highest of 2,600 feet, it must be allowed—and a majority of cultivated lovers of natural scenery have so agreed—that this locality is without a rival in the world in this kind of scenery. Nor are the falls themselves all the attraction. The vegetation is full of interest. Alder, willow, Douglas spruce, sugar pine, yellow pine, bastard cedar, fir, Oregon maple, black oak, live oak, manzanita, California laurel or bay, are some of the tree growths. Yellow pond-lilies, the great white Sierra lily, Hosackias, wild roses, penstemons, azaleas, the "snow plant," the exquisite ceanothus or California lilac, and a host of other flowers, notable for brilliancy or fragrance, are found here. The cryptogams, or ferns, are rich and various: sphagnum or peat moss, brakes, polypodiums, adiantums, pelloeae, aspidiums, cheilanthes, and a great number of species of grasses, with many other plants full of interest to the student or the scientist, are found abundantly.

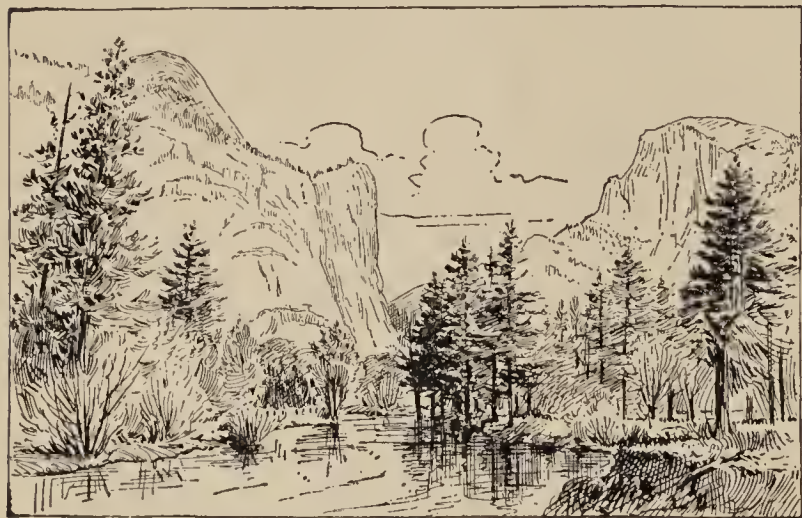
The hotel accommodations are ample, and the facilities for guides, animals for riding, etc., satisfactory. The climber has an attractive field for his enterprises, and indeed, every visitor should ascend at least one wall of the valley, to enjoy the breadth and scope of the prospect. The photographer will find here objects for his lens not to be paralleled anywhere in the West.

The transverse valley of the Yosemite is an almost level area, eight miles long by one-half to one mile wide. Its elevation is four thousand feet, with cliffs and domes in the near neighborhood rising to an elevation of seven thousand to nine thousand feet. Over these vertical walls tumbles the Merced River, flowing the whole length of the valley and emerging over the rapids at the lower end. Some scientists deem that this mighty chasm was sculptured by glacial action; others, that it was wrought by the force of upheaval. The valley was discovered by the whites in 1851, during the course of



troubles with the Indians, whom the whites pursued into this their stronghold of refuge. These Indians were a mixed race. They had a name for every meadow, cliff and waterfall about the valley, which have been mostly lost, unfortunately for picturesque reasons. Almost the only one still current is that of the valley itself, Yosemite, meaning "Grizzly Bear." The year 1855 first saw travel for pleasure to this region. The next year saw the first house built, which is still standing.

The Yosemite is about 155 miles from San Francisco in a direct line, but, by either of the usual routes, nearly 250 miles. The trip



THE DOMES, YOSEMITE.

is made by rail and stage. The traveler has a steep climb down the mountain trail, 2,973 feet, to the bottom of the valley, during which is presented a series of views ranging over the whole of the valley and its dominant features. From Inspiration Point looking east the chief points are: El Capitan on the left, Bridal Veil Fall and the Cathedral

Rocks on the right, and in the center a general view of the valley, and, beyond, the canyon of the Tenaya Fork of the Merced River. The point of the Half Dome is just visible, over the ridge of which Sentinel Rock forms a part, and in the farthest distance is seen Cloud's Rest.

Of the cliffs, El Capitan and the Half Dome are the most striking. The latter is the higher, but it is hard to say which conveys a more decided idea of massiveness and grandeur. El Capitan is an immense block of granite projecting squarely out into the valley, with an almost vertical sharp edge, 3,300 feet high, with sides or walls bare, smooth and entirely destitute of vegetation. This stupendous bulk can be seen from the San Joaquin Plains, fifty or sixty miles away. One writer says: "A single perpendicular wall of this height would make this rock one of the wonders of the world; but here are two such walls, half a mile in length, smooth as marble, meeting at a right angle, which makes 'The Captain' absolutely a unique sight." "Sublimity materialized in granite," another strong writer calls it. On the right is one of the most beautiful objects in the world—the Bridal Veil Fall, where the water strikes on a pile of debris sloping, and rushes down in a series of cascades for a total distance of nine hundred feet. When the body of water is not at its strongest, the wind, as it varies in pressure, sways the stream now to one side, now to the other, sometimes as much as twenty feet from the perpendicular, as if it were a fleecy veil in earnest. Directly opposite this is the Virgin's Tears Fall, two thousand feet high. A little above the Bridal Veil, on the same side, is that prominent and massively sculptured pile of granite



bearing the name of Cathedral Rock, whose summit is 2,660 feet above the valley. Just beyond are the graceful rock pinnacles, "The Spires," five hundred feet high, connected with, but standing out from, the valley walls, and thrown into wonderful relief as the varying lights fall on them. The "Three Brothers," a triple group reaching 3,830 feet high, suggests the Indian name for it, meaning "Leap Frog." The gigantic obelisk, like a watch-tower, 3,043 feet high—Sentinel Rock; the Vernal Fall, with its peculiar beauty, which some think excels all other features in the valley; the North Dome, 3,568 feet high; the splendid figure of Half Dome; the Cap of Liberty; the fantastic natural carving on the valley walls—all are wondrous. But perhaps the most notable of all is the Yosemite Fall, *par excellence*, leaping down almost vertically, making a fall of over 2,600 feet—sixteen times as high as Niagara.

The Yosemite would be little less frequented even if all its waterfalls were blotted out of existence, for its other attractions would still suffice to draw thousands upon thousands of visitors yearly. Its imposing peaks, seven times as high as the tallest of European cathedrals, its coloring, its cloud effects, its wealth of ferns and plants of beauty and interest, its scope for the adventurous climber—all are constant invitations, aside from the waterfalls.

### THE BIG TREES.

California's attractions are mostly *sui generis*, peculiar to the State, and of none is this so emphatically true as of that unique product, the Big Trees.

In age, many of the English yews surpass the sequoia; the Australian eucalyptus often attains a greater height; but taking into consideration the joint features of thickness, height and grandeur, there is no tree known which approaches the trees of California.



MARIPOSA BIG TREE GROVE.

The Big Tree is extremely limited in its range, even more so than its brother, the redwood, the former being exclusively a growth of the Sierra. Both species are peculiarly Californian. The Big Tree occurs only in groves, or scattered over limited areas, never in isolated groups. These groves are limited between latitude 36 and 38.15 N. There are eight distinct patches or groves of Big Trees. The largest grove is that first discovered, the Calaveras Grove, found in the spring of 1852 by Mr. A. T. Dowd, a hunter, and other discoveries were soon made by Mr. J. M. Hutchings, the Yosemite pioneer, and others of the early settlers.

The sequoia is never found in company with the redwood; but, while it is true that the Big Tree is not indigenous to the Coast



Range, where the redwood abounds, the sequoia will grow rapidly if transplanted thither, and the two species will and do grow alongside. The sequoia has whims of its own not readily explicable, which serve to make it something of an eccentric growth among trees; for instance, its disdain of the space between its groves, while this intermediate country seems quite as well adapted to its propagation. Again, while it is a hardy tree, and thrives quite as well on sterile soil and exposed sites as on sheltered and well-watered locations, it is easily uprooted by insignificant tempests, and its groves are full of fallen monsters in many stages of decay. This peculiarity is due to the lack of strong tap-roots to act as guys or anchors. Another idiosyncrasy of the sequoia is the scarcity of young trees in its groves, especially in the Mariposa Grove. The comparatively tiny size of the cones is notable also.

Of these "plantations of God," as Emerson termed them, the most accessible is the Calaveras Grove, to be reached by stage from Milton. The Mariposa Grove, which can be visited while *en route* to the Yosemite, contains the largest known trees. The age of these colossi is from 1,500 to 2,000 years. They stand as high as 325 feet, and the greatest girth is 115 feet. The most adequate idea of their great size can be obtained only by inspection of prostrate trees. The size of the erect ones is not readily appreciated. But one realizes that it is a respectable sort of tree that requires a ladder to climb its prostrate form, and in walking along which great care must be taken, as a fall would be as disastrous as a drop from the roof of a three-story house. Only think of the ignominy of breaking one's neck by "falling off a log." An idea of the height of these trees is obtained by walking along a trunk for a hundred feet or more before reaching the first branch, and that a limb fully six feet in diameter—as large as the trunks of the largest elms of the Connecticut Valley, that Dr. Holmes has made famous. In the Calaveras Grove are from ninety to one hundred trees of huge size. It is estimated that the "Father of the Forest," now fallen, was 450 feet high, and twenty-four in diameter. Its stump was squared off six feet above the ground, and on it was built a pavilion wherein thirty-two people at once danced a cotillon, musicians and spectators increasing the occupants to forty-nine. On top of the fallen trunk there was for a time a ten-pin alley, eighty-one feet long, and with two alley-beds side by side. Into one hollow, prostrate tree three horsemen can ride abreast. The tunnel through the living tree "Wawona" is ten feet high and from six to ten wide, so that the loaded stage coach passes through it in transit. This tree is twenty-seven feet through. "Old Sequoia," of the Tuolumne Grove, charred almost to death by forest fires, has but 175 feet of height still standing, but the magnificent old stump is 121 feet around. The "Grizzly Giant," largest of the Mariposa lower grove, is ninety-three feet seven inches in circumference. For another tree, in a grove less well known, is claimed a circumference of 129 feet five inches. Near Santa Cruz, and reached by the Southern Pacific's narrow gauge railroad, is a beautiful grove of redwood Big Trees, which will well employ a day's visit. The largest tree is fifty feet in circumference at the base, and 275 feet high.



HALF DOME, CLOUD'S REST AND MOUNT WATKINS, YOSEMITE VALLEY.







ADMINISTRATION BUILDING,  
CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.



## King's River Canyon and Tehipitee Valley.

The beautiful Tehipitee Valley of the Middle King's River Canyon, which the few who have entered pronounce, in its wild scenes and stupendous heights, a fit rival of the Yosemite, has been little visited and little written about. In years to come, it must certainly be made more easy of access, for such sublime buildings of nature as surround and are inclosed in this enchanting little valley can not long remain buried to the world.

Probably the least difficult route to the Middle Fork Canyon, which affords many delights as one ascends and descends the mountain trail, is that which makes Fresno a starting point. Here outfits of pack animals, provisions, etc., may be procured, and journeying by either stage or horse, the great valley of the San Joaquin with its vineyards and wheat fields is soon left behind, and the Toll House in the foothills, forty miles from Fresno, is reached, where good accommodations can be had. Here the traveler commences to ascend the Sierra abruptly, by way of a well-built road traveled continually by huge ten-horse wagons with lumber from the surrounding mills, and as he rapidly gains an easier elevation, he has an extended view of the scorching, dusty plains, over which he has just traveled, the only disagreeable part of the trip. This county road continues as far as Laurel Creek, about twenty-five miles from Toll House, passing two trading-posts on the way.

A most magnificent group of the *Sequoia gigantea* is located about three miles off the trail at this point, as indicated by a signboard "To Big Trees." There are about thirty members of this interesting family, most of which have been named. Some grew weary of rearing their heads among the clouds for so many thousand years, and crashed to the earth, and the great mass of roots and rocks clings to them as they lie in a prostrate form. Others are buried and hollow, yet still living with green, soft foliage at their top, while the thick bark at the base has perhaps been torn in shreds by some huge bear as he reached high up on its trunk to sharpen his claws.

This group of giants, with their soft, distinctive foliage and rich reddish sides, seems very kings, and commands awe and respect from the beholder.

The remaining forty miles of the trip is ever interesting in grand pines and brilliantly green meadows with carpets of wild-flowers of a thousand shapes and hues. Many beautiful creeks are crossed, and after a thus far gradual ascent a long descent is made to the North Fork of King's River, a pretty mountain stream, which, however, has none of the sublime adjuncts of its brothers the Middle and South Forks.

Continuing in gradual ascent the forest embowered "Chimney Rock" and "Lookout Mountain" to the left, and the picturesque



"Tombstone Rock" rise abruptly among the clouds to the right. These are bald knobs well worth a day's side trip from the trail, and from them can be seen Whitney, Tyndall and King away to the eastward, while Goddard's triple peaks rise black and desolate to the north. After a four days' tramp from Toll House the brink of the canyon is reached, and one looks down, it seems, for over a mile to the bottom of the abyss where rushes the King's River, visible in nearly a continuous course for twenty miles to the northward, and looking like a narrow, greenish ribbon with scarcely perceptible motion from so great a height.

This is just above that portion of the canyon which broadens and forms, as Mr. Muir terms it, the "enchantly beautiful" Tehipitee Valley, with its almost level floors, its surprising variety of trees and shrubs and grand oaks, its glimpses on all sides of surpassing scenery, its beautiful cascades, enchanting side canyons breaking through its towering walls, and, above all, that stupendous rock, the Tehipitee Dome, with its grand architecture, a mass of granite rising abruptly from the valley's floor to nearly the level of our feet.

The descent into the canyon from this point is made over a steep trail down the brushy slope of what constitutes the south wall of the valley, and, after two or three hours' continuous travel, during which it is necessary to exercise extreme caution to prevent accident to the pack animals, as they descend at an angle of nearly 45 degrees, we finally emerge on an open flat a few hundred yards from the river, a swift, wild stream, rushing and roaring on its way to join the South Fork about six miles below.

The floor of the valley is wooded with countless varieties of trees and shrubs, and is open and sandy around the foot of The Dome; while on the opposite side of the river a beautiful meadow of several hundred acres, with grass head high and dotted with alders, offers unlimited provender for animals, if the season is far enough advanced to enable our fording the river successfully.

Looking in any direction, around and above, the eye rests on towering peaks, castle-like crags, at which one never tires; and ever interesting, with its constantly changing lights and shadows, from the first silvering of its polished cap by the rising sun till the last reddish gleam at night, rises that sublime rock, The Dome.

Two entering canyons on the south wall of the valley present grandly effective pictures, and have been named respectively the "Plutonian Portal" and "Temple of the Gods." In the former a narrow stream, which can be traced high up in its tumbling course, finally takes a last leap of about 300 feet into a circular pool at the end of a long, deep, cavernous inclosure, in which the wind is always rushing misty, cold and forbidding, yet grand in the extreme.

Other cascades of considerable volume there are in the valley, all of remarkable beauty. The river abounds in mountain trout, and deer and bear are occasionally encountered.

Tehipitee can be visited during any of the summer months. Its climate is near perfection. The altitude of the valley floor is 4,300 feet.



## Lakes and Geysers.

No map yet issued has attempted to set down all the lakes of California. They number nearly one thousand. From the summit of Mount Tallac alone about twenty are at once visible, and from one point in the Sierra Nevada, near the railroad at Summit Station, on the Central Pacific Railroad, may be seen nearly thirty. All over the State they lie, from the highest, on the lesser Shasta, 13,000 feet above sea-level, down to Salton, three hundred feet below the level. In many parts of the State are groups of lovely lakes, easily accessible, and so close together that the traveler can include several in one expedition.

Probably the most interesting of them all, taking them "by and large," is Lake Tahoe. This is distant from San Francisco 223 miles, a trip delightful to make by rail, with fourteen miles of staging at the finish. Two-thirds of this vast mountain lake belongs to California, one-third to Nevada. It lies 6,216 feet above the sea. Its greatest length is twenty-five miles, its breadth twelve miles, and its depth 1,700 feet. Its water is icy cold, and as clear as crystal. Its supply seems to proceed from artesian sources, as the lake has no tributary streams of consequence. It has only one outlet, the Truckee River, flowing into Pyramid Lake, in Nevada, and no stream runs out of the latter.

This veritable inland sea, suspended in the Sierra, is grandly environed by many of the lesser giants of the high Sierra. The Rubicon Range on the west is a rugged snow line, where many small lakes lie in clusters, shining like miniature types of the greater one. Then there are on the eastern side other snowy crests, where the cloud effects are most wonderful and gorgeous. The outlines of these snow peaks, shown in relief against the blue sky and golden clouds, the cloud reflections, the limpid waters, shading in their depths to gem-like tones, the mirrored sublime scenery, the exquisite effect of the afterglow, said to be seen only here in all America with all the richness displayed in Alpine regions, the interesting sights to be seen at the neighboring lumber camps, all contribute to make Tahoe a resort that charms all who visit it. The sportsman, too, finds abundant provision for his especial interests. The boating is superb, and the trout fishing something intensely satisfactory. One of our most famous travelers, alike familiar with the Old and the New World, relates that when the small boy detailed to take him to the lake told him that trout were often caught weighing twenty-five, twenty-six or twenty-seven pounds, he "thought it was a California story and a fish story in one, and therefore a little worse than the average lie." But he goes on to say that they had rowed but a few rods from the shore when he saw beneath the boat a trout that could not have weighed less than twenty-five or thirty pounds, whereupon he became an enthusiastic, penitent convert.



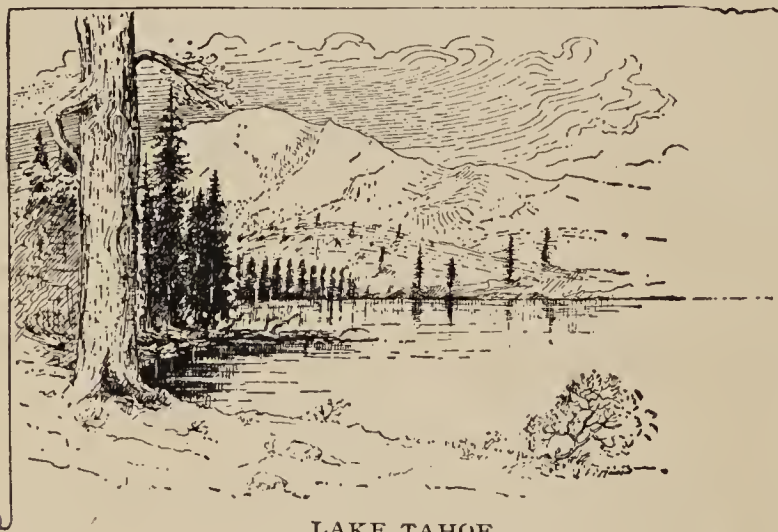
The air at this altitude is so fine and pure that a sojourn is very beneficial. Mark Twain says in characteristic style: "Three months of life at Tahoe would restore an Egyptian mummy to his pristine vigor, and give him an appetite like an alligator. Of course I don't mean the oldest and driest mummies, but the fresher ones."

From Tahoe excursions can be made into the Glen Alpine country, up Mount Tallac, and to the numerous lakes comprised in the same group as the main one. At least two weeks should be spent here, to do full justice thereto.

Donner Lake, lying near the railroad on the eastern slope of the mountains near Truckee, is small but beautiful, and charmingly surrounded. Fine forests fringe its shores, and its glassy bosom mirrors the Sierra's snowy heights. This is a superior resort for boating and fishing in summer, and for skating in winter. The tragic episode which gave this lake its name was, perhaps, the most harrowing in the history of California. Briefly stated, it is as follows: An emigrant party headed by George Donner, pushing its way toward California in the fall of 1846, was overtaken by an unusually severe snowstorm near this lake, and thirty-four out of eighty-one perished, almost within sight of the Promised Land, after most

deplorable sufferings and resort to the last alternative of starving humanity. The history of this lake has often diverted attention from its exceeding beauty.

Fallen Leaf Lake is so named from the richness of the autumn foliage which bestrews its margin in the fall of the year. The name of Half Moon Lake



LAKE TAHOE.

indicates its shape, as it stretches out over a vast amphitheater, at the very base of Crystal and Richardson peaks, more than nine thousand feet high, being fed by their snows and springs. Gilmore Lake, the highest of those of Glen Alpine, lies under the summit of Tallac among trees and meadows. It is of great depth, about half a mile in diameter, nearly circular, and probably occupies the crater of an extinct volcano. Farther down are Susie, Heather, Water Lily and other lakes of this group.

In the neighborhood of Castle Crag is an interesting group of lakes—Castle, Picayune, Echo, Mumbaugh, and half a dozen others. In Lake County are the Blue Lakes, Clear Lake, etc., most of which have very good fishing. Borax Lake, more curious than beautiful, Owens Lake, and others, though of minor importance, are interesting. Mirror Lake, somewhat overshadowed by the other manifold attractions of the Yosemite, deserves attention, not only because it reflects some of the finest mountain scenery in America, but also because it helped to give the valley its present name, it having been called formerly Ah-wah-nee. Tradition runs that an Indian chief, going



to this lake to fish, there encountered an enormous grizzly bear, with which he had a terrific struggle, and finally killed it, having no better weapon than the branch of a dead tree. In honor of his prowess, as is the Indian fashion, the name Yosemite, "a big grizzly bear," was bestowed upon him, passing on to his family, and finally to his tribe inhabiting the valley.

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### THE GEYSERS.

Not only are the Geysers of wonderful interest, but they are among the most readily accessible of California's natural curiosities. They are about one hundred miles north of San Francisco, in the volcanic belt, of which Mount St. Helena and the region around the Petrified Forest form a part. The fertile soil of Napa Valley, as well as the rugged foothills encompassing it, show that where the green-and-gold of fields and vineyards now glows there were, and not so very long ago, violent volcanic commotions.

Aside from the interest of the objective point, the trip alone is one of great and varied interest: by rail and ferry to Vallejo—opposite the Navy Yard on Mare Island—and through the vast vineyard lands of the Napa Valley to Calistoga, thence by a stage ride of twenty-six miles which, for romantic interest, is not equaled in the State. The forest types are the richest of the Coast Range, except the redwoods, here replaced by the fir. The madrone, California laurel or bay, manzanita and others flourish gloriously, as do the black and live oaks. The ferns and flowers are lavish and varied in character. The park-like oak groves of the valley are variegated along the stream by thickets of sycamores, alders, willows and a plentiful undergrowth of vines and bushes. The orange hue of the California poppy, the bright gold of luxuriant crops of wild oats, the rounded bunches of mistletoe on the trees, the scarlet-leaved vines, the charming views of the neighboring mountains, the exquisite tones of the valley levels, the clustering towns and villages in the perspective, make up a delightful picture. At the head of Napa Valley can be seen Mount St. Helena, 4,343 feet high,—a grand object, whether from afar or near.

The outlines of the ridges are sometimes made very striking and fantastic by out-cropping masses of metamorphic sandstone, cut into mural or battlemented shapes by the elements. Anywhere from Calistoga to the Geysers, the curio-seeker may find obsidian or volcanic glass, either in the shape of Indian arrowheads or small lumps and boulders. One deluded mortal conceived the idea that this substance offered suitable material for a bottle factory, and was convinced of his error only by sad experience.

The Geyser Canyon is an uncanny enough place, filled with strange, bubbling, groaning, grumbling noises, hot steam and seething vapors and gases. The deep, red gulches that scar it from base to summit actually smoke like volcanoes from many an ashen heap or hollow, and the air is charged with sulphurous smells. Huge boulders of sandstone and granite, and great blocks of conglomerate, obstruct the channel of the creek. The whole district



seems like the crust over a boiling, struggling caldron, or the focus of internal fires not yet cooled off in the process of Earth's solidification, and it appears that the contents are making desperate efforts to escape from their pent-up quarters. The whole canyon is in a state of ebullition, and one can hardly banish the thought that should these mighty steam-vents become clogged the whole region would be blown sky-high.

Scientific men say that these are not "truly Geysers," but fumaroles; but that does not destroy their interest. There are over one hundred springs, of all temperatures, colors and noises. Naturally, their appearance has won for many names of diabolic import and suggestion. Where no heated waters flow from the rock, steam, under high pressure, issues, intensely hot, and shrieking or hissing. From one hole, a foot or two wide, it escapes with a noise like that of a high-pressure steamboat "blowing off," and this vent is appropriately called Steamboat Geyser. The "Witches' Caldron" is a black, cavernous opening in the solid rock, about seven feet across, and of unknown depth, filled with a thick, inky liquid, boiling hot, that tumbles and roars, smelling like bilge-water, apparently coming from some Plutonic reservoir. Another remarkable spot is the Devil's Gristmill, where a large column of steam escapes, from a hole in the rock, with so much force that stones and sticks, laid at the aperture, are blown away like bits of paper, with internal noises very like the workings of a gristmill. Another spring of demoniac title is the Devil's Inkstand, full of black water, specimens of which are carried away in vials, being also used to inscribe the names of guests on the hotel register. In this Devil's Canyon the ground is hot under the feet, the air is full of throbs and thuds and subterranean rumblings, the atmosphere is charged with acidulous vapors, and where they are thickest and the noises loudest, the guide says: "This is the Devil's Laboratory." There are no spouting springs in this canyon, but numerous bubbling ones, that rise and sink with spasmodic action. Some are as hot as 207 degrees. The color ranges from clear and pale yellow to dark gray and black. There are waters charged with soda, iron, sulphur, epsom salts, magnesia, alum, ammonia, and many compounds not classified by the chemists. This part of the country has well been termed "The California Hecla." Wherever one treads, going up the Devil's Canyon, the foot slips or crunches on some of the chemical products of the springs. Four miles up the Pluton Creek occur "The Little Geysers," similar to the larger ones, except that they issue from a gently sloping hillside instead of a deep gorge. Though the altitude of the Geysers is about two thousand feet, the distance from the sea makes the day dry and warm, and the nights cool.

### PETRIFIED FOREST.

Six miles from Calistoga is the Petrified Forest, discovered by Mr. Deane in 1879. It contains about one hundred trees and parts of trees all lying in the same general direction, having been thrown down from north to south. The largest, the Pride of the Forest, measures sixty-seven feet long by twelve feet in diameter.



Within a few minutes' walk of Del Monte, and connected with it by street car, is the old historic town of Monterey, the first territorial capital of California, and also the seat of the second of the California Missions, as well as the home of the first missionary president, Father Junipero Serra. Many old adobe buildings and other quaint remembrances yet remain to tell of bygone days; and the relic-hunter and one interested in the reminiscences of a romantic past can find ample opportunity for the gratification of his taste in Monterey and surroundings.

Some two or three miles beyond Monterey is Pacific Grove, which began existence as a seaside camping-place, but has developed into a lovely little city of homes, and one of the pleasantest seaside resorts on the Coast.

A magnificent drive, known as the seventeen-mile drive, girdles the peninsula upon which the two towns are located, and gives one a glorious view of the old Pacific unsubdued by island, or land modifier of any sort. No one who visits Del Monte should miss the seventeen-mile drive. Neither should he forget to see the ruins of Carmel Mission, some seven miles from Monterey, the site chosen by Father Serra for the relocation of the Mission San Carlos at Monterey.



ARIZONA GARDEN, HOTEL DEL MONTE.

### TAVERN OF CASTLE CRAG.

California was long in need of a first-class summer resort in the mountains. This need has been lately supplied by the establishment of the above-named inn at the foot of Castle Crag.

The location of the Tavern is in one of the wildest and most romantic portions of the grand canyon of the Sacramento, on a knoll in a beautiful meadow that lies between Soda Creek and the Sacramento River. Looking up the valley of Soda Creek, guarded on either hand by the serried ranks of pine, fir and spruce, the eye finally rests upon the great scenic loadstone, Mount Shasta.

Upon the west is the sharply serrated Castle Crag range, rising abruptly to an elevation of 5,000 feet above the river, to whose lofty summit fine mountain trails have been made.

The cold Soda Springs are situated near Soda Creek, about a quarter of a mile from the Tavern. The waters are alkaline and carbonated, and contain considerable quantities of iron salts.



### CALIFORNIA MISSIONS.

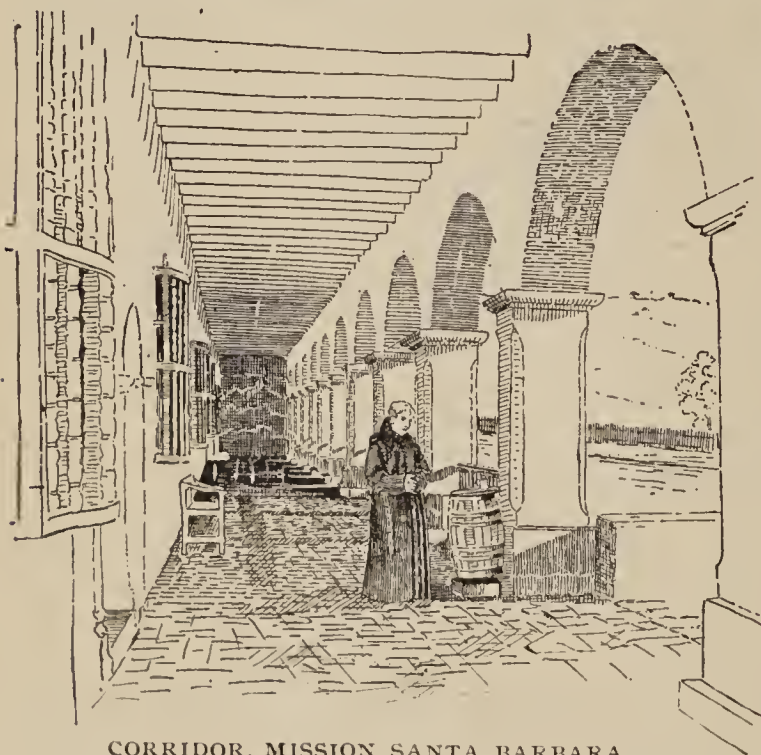
Scattered up and down the Pacific Coast, from San Diego to Sonoma, are the quaint ruins—in many places almost obliterated—of the California Missions. These were founded by a band of Franciscan missionaries, who established, between the years 1769 and 1820, twenty-one Missions in the present State, for the christianization of the native Indians.

There is no more romantic chapter in the story of any land than that of the California Missions. Around their fast vanishing ruins the spirit of the past yet enwraps a soft halo of poetry and religion which California cannot afford to lose. It is to be sincerely hoped that the efforts of a recently organized association for the preservation of the Missions may be successful in staying the hands of vandalism and decay.

Six years before the battle of Lexington, while the American colonists on the Atlantic Coast were but planning the initiatory movement looking to a severance from Great Britain, the first California Mission was founded at San Diego, July 16, 1769. Two years before this, the order of Jesuits had been, for certain political reasons, expelled from Mexico, then under Spanish rule. The several Missions which they previously established in Lower California were then tendered to the Franciscans of the College of San Fernando, Mexico.

A little band of twelve friars, under the leadership of Father

Junipero Serra, was sent to take possession. Prompted by a long-cherished desire to colonize Upper California, the Spanish Government encouraged the religious zeal of the missionaries for its christianization. Soldiers were sent with the missionaries, and immediately upon the establishment of a mission, men with their families were sent to form "pueblos" near, for the aid and support of the missionaries. Thus the early colonists of California were composed of the three departments, ecclesiastical, military and civil, settled respectively in "missions," "presidios" and "pueblos."



CORRIDOR, MISSION SANTA BARBARA.

tical, military and civil, settled respectively in "missions," "presidios" and "pueblos."

The Missions flourished almost beyond conception, due to the zeal of the missionaries and the fostering care of the Spanish Government, until Mexico declared herself a republic in 1821. At this time the Missions contained about 31,000 christianized Indians, beside countless herds of cattle, horses and sheep.

Almost the first act of the Mexican republic was to subvert the established plan of the Missions, taking all control from the



missionaries. With the secularization of the Missions in 1832 their decline was rapid and final, and when California was annexed to the United States, in 1848, the Missions were but pitiful and deserted wrecks.

Mission Santa Clara is the best preserved of all, having in 1851 passed into the hands of the Jesuits, who established on its site the Santa Clara College. The old church has been restored as much as possible to the original appearance, and is now used as the parish church.

The dates and order of establishment of the twenty-one California Missions are as follows: San Diego, July 16, 1769; San Carlos, afterward called Carmelo (Monterey), June 3, 1770; San Antonio de Padua, July 14, 1771; San Gabriel, September 8, 1771; San Luis Obispo, September 1, 1772; Dolores (at San Francisco), October 9, 1776; San Juan Capistrano, November 1, 1776; Santa Clara, January 12, 1777; San Buena Ventura, March 31, 1782; Santa Barbara, December 4, 1786; La Purisima Concepcion, December 8, 1791; San Jose, June 11, 1797; San Juan Bautista, June 24, 1797; San Miguel, July 25, 1797; San Fernando Rey, September 8, 1797; San Luis Rey, June 13, 1798; Santa Inez, September 17, 1804; San Rafael, December 4, 1817; Sonoma, April 25, 1820.



PALM CANYON, SAN DIEGO COUNTY.

No sketch, however brief, of early California history, is complete without the name of Junipero Serra. Born November 24, 1713, in the Island of Majorca, received into the order of St. Francis at the age of sixteen, he sailed for America in August, 1749; was appointed President of all the California Missions in 1767; and, on July 16, 1769, at San Diego, established the first Mission in California.

From this time until his death, in August, 1784, the life of this grand, heroic man was devoted unreservedly to his Master's cause. His Franciscan vows of chastity, celibacy, poverty and humility were strangers to the rude savages to whom he ministered. Yet, so strong was his loving influence among them, that after his death soldiers kept watch around his coffin to keep back the throng of poor creatures who pressed to touch the hand of the Father they had so much loved, and to bear away something, if only a thread, of the garments he had worn.



## LELAND STANFORD JUNIOR UNIVERSITY.

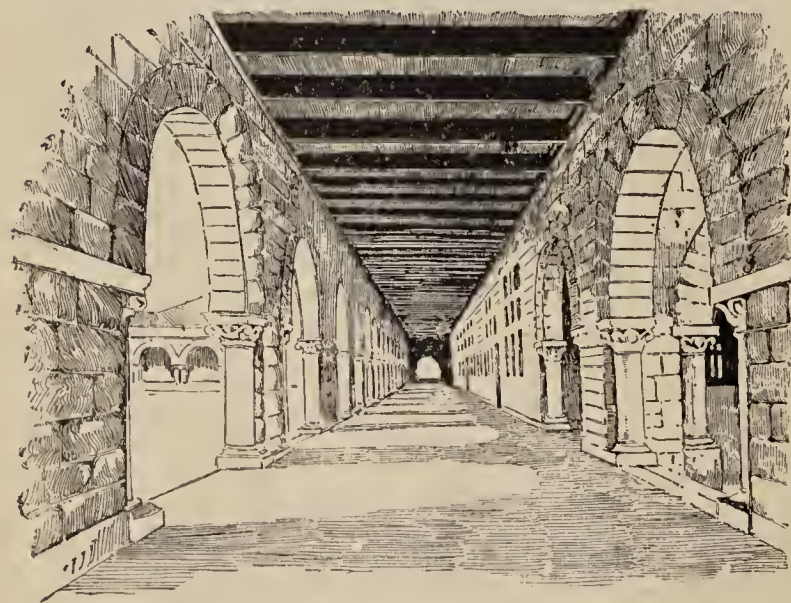
Among the broadest educators the idea is gaining ground that it is better for Eastern young men and women to attend a Western college, and *vice versa*. While California, in the past, has sent many students to Eastern colleges and universities, it is only since the opening of the Leland Stanford Jr. University, at Palo Alto, California, that an Eastern tide of students has set toward this State. When this magnificent institution opened its doors, October 1, 1891, almost every State east of the Rocky Mountains, beside other sections more remote, was represented in the hundreds of students that thronged its halls and corridors. In fact, the majority of the students were from the East.

It would, perhaps, be an interesting study to ascertain the reasons for this westward-taking of such a large student course. While California's superior climate, so favorable to out-of-door life and exercise, is certainly an element of attraction, it cannot be a very great one, or it would have been operative in the past to a greater degree than it has been.

The fact that the Leland Stanford Jr. University is one of the most nobly endowed universities in the world; that it numbers

among its professors many of the most advanced educators of the day; that every appointment is designed to be as nearly perfect as an intelligent expenditure of almost unlimited means can make it—these are perhaps some of the reasons why Stanford University has become the Eastern student's Mecca of the West.

The founding of the University as a magnifi-



MAIN CORRIDOR, STANFORD UNIVERSITY.

cent monument to an only son; the princely endowment of lands and money; the rapid launching upon the sea of active and practical work—these facts are familiar to almost every one, east or west, who has read the newspapers during the past few years. An institution of learning located thirty miles from San Francisco, in the midst of an estate of more than eight thousand acres, matchless in grace of outline and fertility of soil, is certainly an object to be widely talked about. Beside the Palo Alto estate there are properties in other parts of the State, aggregating some 28,000 acres, making a total of 36,000 acres, this being the land endowment of the great University.

From the day of its opening it has taken honorable rank among the prominent universities of the world, its management having been such as to establish it firmly in the confidence of the people.

The buildings of the University are one story in height, of gray sandstone. Those thus far completed—extensive as they are, they are but the beginning of a system of structures—are arranged around a



quadrangle 586 feet in length by 246 feet in width, inclosing three and one-fourth acres. Extending around the entire quadrangle is a continuous length of wide corridors into which every room opens. Within this sheltered inclosure are gardens in which are grown the rarest trees and plants. Many other buildings have been erected on the domain for dormitory, residence and other purposes, including a beautiful structure for a museum. Students from abroad reside at the University, or at any of the adjacent towns, and many come daily from their own homes along the line of the railroad from San Francisco to San Jose.

Tuition and all lectures are free, and visitors to the lecture-rooms are always cordially received. There are at present about eight hundred students enrolled, and some seventy resident professors.

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### MINERAL SPRINGS.

Perhaps nowhere in the world is there such a number and variety of mineral springs within the same area as in California. The waters of our springs compare favorably with the health springs of Europe and the Eastern States; in fact many are almost identical with some of the most famous.

In California as yet but comparatively few of these natural health formations have been analyzed and developed, and fewer still have become widely known. But such as have been thoroughly tested have yielded excellent results in the treatment of the many chronic and almost incurable ailments of humanity.

The region most prolific in mineral springs is the Coast Range Mountains, which, being of later geological formation than the Sierra, retain the effect of the dying throes of extinct volcanoes. Perhaps the very latest vantage-ground of volcanic action is comprised in that small section of California known as Lake County, called by some enthusiastic admirer, on account of its wildly beautiful mountain scenery, "The Switzerland of America;" and Lake County has within its circumscribed borders, without doubt, more remarkable mineral springs than any other section of the same size in the world. In this respect it well deserves the title of the Sanitarium of the West.

However, scattered from Siskiyou to San Diego, in both the Sierra Nevada and Coast Range of mountains, are almost countless mineral springs, whose inestimable value, both for the curative properties of their waters and the remarkable beauty and healthfulness of their location, can be fully appreciated as these qualities become known. To fully particularize in a brief sketch would be impossible.

The most noteworthy springs resorts contiguous to the highways of travel in California may be summed up as follows:

The Paraiso Springs are situated in a picturesque alcove of the Santa Lucia Mountains on the western border of the Salinas Valley, about 150 miles south of San Francisco. The altitude of nearly a thousand feet above the valley renders the atmospheric conditions dry, wholesome, healthful and comfortable.



The Paso Robles Springs lie in a beautiful oak-knolled valley between the Santa Lucia and Gavilan mountain ranges in San Luis Obispo County, and are distant from the ocean about twenty-five miles. It is 216 miles in a southerly direction from San Francisco to El Paso de Robles, the "Pass of the Oaks;" and the journey is a more than ordinarily pleasant one, the entire distance being covered by rail.

The Byron Hot Springs are the most accessible of all our California health resorts, and a consultation of the map will show that they are located almost in the center of population of the State, and on the main line of travel into the State. San Francisco, Oakland, Sacramento, Stockton, Fresno and the cities of the south are all within easy reach by rail. The trip from the bay is an extremely pleasant one of three hours' duration on the line of the southern overland via Martinez.

The Arrowhead Hot Springs, a watering place and mountain resort for both summer and winter, is situated in Southern California, six miles north of the city of San Bernardino. On the face of the mountain just back of the hotel and springs is the figure of an arrowhead, 1,360 feet long and 450 feet wide, supposed to have been executed by the Indians to indicate the location of the springs.

The Napa Soda Springs are charmingly located on the southwestern slope of the Coast Range, about fifty miles from San Francisco and six miles from Napa City. The elevation is about one thousand feet above the sea. They are reached by ferry and rail to Napa City, and at the end of a short hour you arrive at the springs. Here the scenery is charming: a thousand feet, neat and cozy farm-houses and homes green pastures and well-tilled fields, orchards, vineyards and groves.

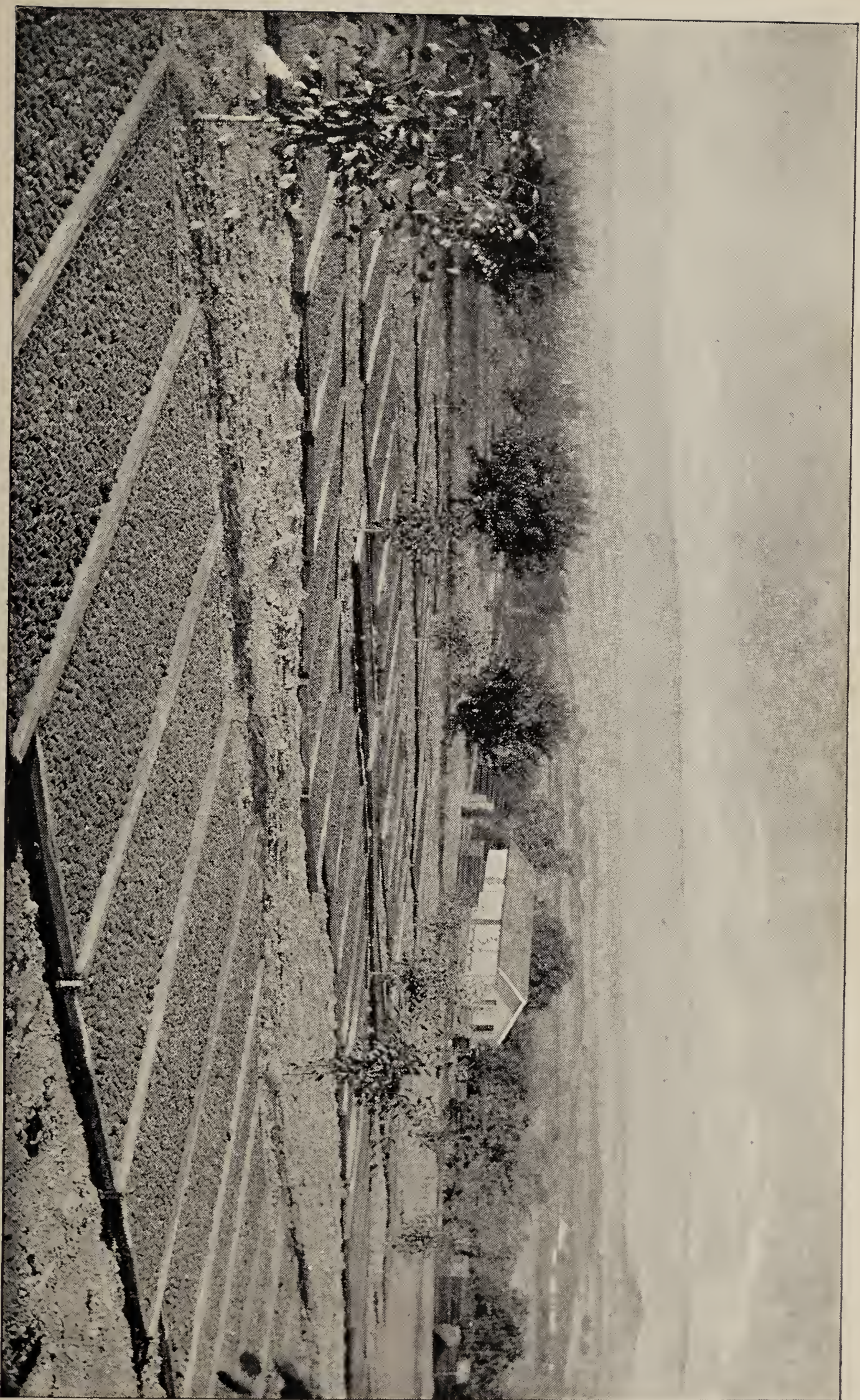
Among the principal Lake County springs thus far developed, and the waters of which have been analyzed, are Adam's, Allen's, Anderson, Bartlett, Bonanza, Gordon's, Harbin's, Highland, Hough's, Howard, Pearson's, Saratoga, Seigler's, Soda Bay, Zem Zem, and Young's Natural Gas Well. Nearly all of these have commodious hotels, bathing facilities and other attractions; beside which the wildly beautiful scenery of this region, together with its peculiarly dry and bracing atmosphere, render these places favorite resorts.

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### THE PASADENA MOUNTAIN RAILWAY,

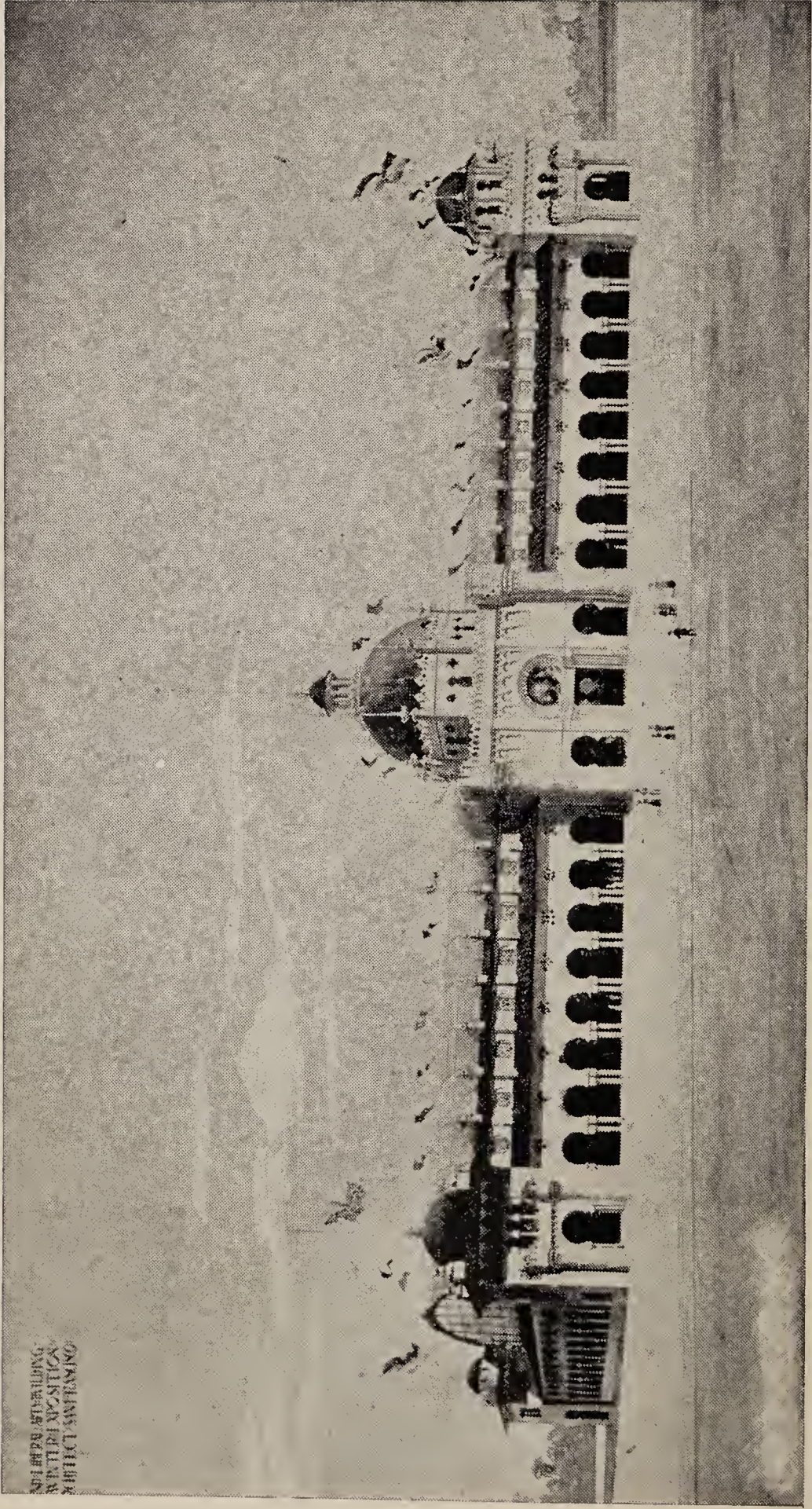
popularly known as "Lowe's Mountain Railway," is an electric trolley and cable railway connecting the city of Pasadena with the summit of the Sierra Madre Mountains, whose elevation is six thousand feet. A ride of an hour or so on this road, from orange groves to snow fields, reveals some marvelous scenes along the way; and at the summit is a panorama of mountain, valley and sea altogether startling and magnificent.





PRUNE DRYING.





MANUFACTURES AND LIBERAL ARTS BUILDING, CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.



## Resources, Industries, etc.

“ Can a man make money raising fruit in California ? ” “ What will his land cost ? ” “ How soon will he get a crop ? ” “ What will his profit be ? ”

Let us turn Yankee and ask the inquirer the following : “ Can a man make money in business east of the Rocky Mountains ? ” “ How much will his rent be ? ” “ How soon may he expect his first customer ? ” “ What will be his net annual income ? ”

These latter questions are as easy to answer as the first. You will reply that a man can make money in business east of the Rocky Mountains if he is reasonably economical, conducts his business within his capital, and exercises ordinary intelligence and prudence. We answer yes, that a man can make money raising fruit in California conducting his business in the same manner. The greater amount of brains he employs the larger will be his returns.

The other three questions put to us are not as easily answered definitely. The cost of land is as variable a quantity as is rent, both being dependent upon their conditions. The actual value of land is regulated by the market price of its product, as the actual value of a building is determined by the rate of interest it pays on its cost. A store is worth more to a tenant when located on one street than on another, although the building may be an inferior structure, or in poor repair. So, while two separate acres of land may be equally productive, one may be more valuable on account of being so located that its product may be easily and cheaply marketed. So, also, while two separate acres of land may both yield the same income, and may both be located at the same distance from a railroad or town, one may be more valuable to a man of family, being nearer a school, the other more valuable to a bachelor on account of its distance from the noisy seat of learning.

Actual land values increase in direct ratio with the market price of the article produced. When used for natural grazing its worth is small, many acres being required to support one cow. When alfalfa is grown, and more cows can be kept on the same area, the valuation per acre is greater. Fictitious values increase with every desirable neighboring improvement.

The price of land in California is regulated, as elsewhere, by these considerations. Hence there must be apparently unmeaning differences between the prices of land in different parts of the State.

There are vast quantities of Government land well adapted to fruit culture, pleasantly situated and possessing great natural advantages. These, of course, are remote from present cities and lines of transportation. The settler can feel confident, however, that these conditions will only exist temporarily. Communities grow rapidly in California. Many are to-day reaping the rewards of their economy and foresight in taking up Government land, and getting their orchards and improvements in shape, while waiting for



the onward march of approaching improvements to rapidly enhance the value of their property, and to put them in touch with the outside world.

Good fruit lands near shipping facilities may be had at prices ranging at from forty to one hundred dollars per acre. There is an abundance of the former that awaits the purchaser. Much of this has been used for raising grain or other less remunerative products. Not much of the higher priced land is for sale. The owners have it under a most advanced state of cultivation, and are obtaining heavy returns for their investment. Possessing a good thing, they do not care to part with it. Much of this most costly land, a few years ago, was worth no more than the cheapest land now for sale. The cheaper lands may be made nearly if not quite as valuable in a few years by the intelligent and industrious purchaser.

The early industry of stock-raising necessitated large holdings. A confidence in a constant increase of value induced capitalists to buy extensive tracts. In some cases these have been improved to yield an income on the investment; in others they have been allowed to lie and wait. These large ranches are being gradually subdivided and thrown on the market at reasonable prices.

The cost of improvement varies. Some land is covered with a growth of brush and trees, sometimes dense, at others sparse. Other land has been used for pasturage or grain, and no clearing is required. One man will use the brush he takes from the land for fuel, another will burn it off and buy wood; one will do the work himself, another will hire it done.

In planting an orchard, one man will buy young trees; another, older and more costly ones. The one will wait longer for a yield and pay out less money in starting. Still another, familiar with such work, will make his own nursery, doing his own budding and grafting, and still further reduce the original outlay, while he postpones the time of actual returns. One orchardist will plant vegetables or berries between the rows of trees, and so get an almost immediate return of money to use in further improvements. Another will keep a cow and sell milk to neighbors or in a near town. Another will keep chickens and sell eggs. Still another will raise hogs on an alfalfa patch. And another will not "carry his eggs in one basket," and will do all these things, and always have a little money coming in.

The age at which trees come into bearing depends on variety, location, system of culture, etc.

Thus it will be seen that the cost of putting out an orchard could only be answered for a particularly limited section, and even then would be regulated by the methods employed. Any man who will mention in an unqualified manner the amount of this expense would unhesitatingly name a figure as the rent for a store east of the Rocky Mountains, entirely oblivious of its location, size or character. In either case his "figures" would be useless to the inquirer. In pamphlets published by responsible organizations in various parts of the State this information is given with correctness for the different sections.



Successful horticulturists are not unlike other successful business men. They do not advertise their expenditures and profits. They buy what they think they need, and can pay for. They cultivate their crops according to their best judgment, gathered from the experience of themselves or others. They experiment when they think such a course judicious. They sell their goods under the best conditions that present themselves. That the industry pays is proved conclusively by their buying more land and enlarging their orchards; by their erecting better improvements; by their investing in other enterprises, becoming stockholders of banks, railroads, manufacturing, etc.; by their taking holiday trips to the East and to Europe; and by their conducting themselves after the manner of men who, by attending to their business affairs, make money.



A CALIFORNIA WINE CELLAR.

The absence of summer rains, and the long dry period during the ripening season, bring California fruit to a perfection of flavor unknown in other sections. The action of sun rays and a generous soil are each most important in fruit culture. When these are wedded, as in California, the product of the union is without its equal.

In California may be found almost every climate of the temperate zones, with a little lapping over on the frigid and the tropic. The highest and lowest land in the United States is to be found in the Golden State. Among the high elevations of the Sierra Nevada we have Alpine scenery and living glaciers. At nearly three hundred feet below sea-level we have a small tract of country of the greatest interest to the scientist. These extremes are of comparatively limited area. Both are high and low notes of the scale of climates, by means of which Nature sings her grand anthem of praise to the boundless resources of California.

The topography of the State and the effects of the great Japan Current, the Gulf Stream of the Pacific, regulate climatic conditions, and degrees of latitude play but a minor part. In this State the orange is grown successfully as far north as the latitude of Baltimore, or nearly seven hundred miles nearer the Pole than this fruit thrives on the Atlantic seaboard. On the other hand the apple of New England, large, rich, juicy and an excellent keeper, is grown at Julian, in San Diego County, in the latitude of Charleston, South Carolina, and much nearer the equator than the most southerly point of Europe.



But we do not say that over this vast extent of the State do oranges and apples, though growing side by side in many places, reach their highest grade of excellence. There are orange belts and apple belts. These are regulated by elevation above sea-level. Hence we say we go uphill for a change of climate.

The Coast Range valleys and slopes, especially on the west of the principal ridge, and north of the bay of San Francisco, receive a greater rainfall and are adapted to certain fruits. The foothills of the Sierra Nevada, with their large granite boulders, which in the day absorb the sun's heat and at night radiate it, thus equalizing the temperature, form a part of the northern citrus belt, and are also adapted to berries and most other fruits. The season is too short for raisin-making, though for table grapes it would be difficult to find a better section. As we ascend the Sierra Nevada we enter the land of the apple, pear, and many nut-bearing trees. At the foot of magnificent old Shasta, one of the grandest mountains of the world, apples, plums and other fruits are produced of excellent quality.

In the valleys along the eastern flank of the Coast Range are raised some of the earliest fruits in the State. Cherries are sent to market from these sections at a season when much of the country east of the Mississippi River is wrapped in snow and ice.

The great interior valley of California, through which flow the Sacramento and San Joaquin, has been used as an immense grain field, sending shiploads of its product to Europe. Horticulture is encroaching on the grain. In the section around Fresno, in the San Joaquin Valley, the raisin grape reaches its highest perfection. The long hot, dry summer brings the fruit to the highest state of perfection, and there is ample time for the raisins to cure out-of-doors, and generally for a second crop of grapes before the first patter of the rain upon the roof.

This long rainless summer is a blessing for which Californians are thankful. Were there summer rains it would be impossible to successfully raise or dry the fruit.

Southern California is a replica of the region north of the junction of the Coast Range and Sierra Nevada at Tehachapi Pass.

**The Orange.**—It is not known from what particular orchard that lusty old tramp Hercules stole the golden apples of the Hesperides. Had California then been known, Eurystheus might have imported oranges by the shipload and furnished all his people with the delicious and health-prolonging fruit at a remarkably small expense, and avoided the imputation of abetting a larceny.

The cultivation of the orange in California was introduced long ago in sections more than five hundred miles apart. The oldest orange tree in the northern part of the State was grown from seed at Bidwell's Bar in Butte County. The remarkable fact has been demonstrated by actual experience in Butte County, as in other parts of the Golden State, that the orange and the apple, the palm and the pine, grow equally well side by side. The seedling trees in various parts of California did not come into bearing as early as (and



in some cases the fruit was inferior to that of) the later cultivated budded varieties, but the experiments have demonstrated beyond a doubt the adaptability of great sections of this State to successful citrus culture. The introduction of the finest imported varieties, and the discovery of others of California origin, leave nothing to be desired regarding the quality of the fruit, as has been fully demonstrated by the high awards made California oranges wherever exhibited. While the State now exports thousands of carloads of oranges annually, the orchards cannot supply the demands of the limited parts of the United States in which the fruit has been sent.

Speaking of the oranges of Southern California one writer says: "All these varieties, as the product of California soil and climate, possess that happy combination of sugar and acid, of flavor and aroma, which not only pleases the palate but corrects the bile of the Eastern consumer as he emerges from the ruins of a hard winter in the malarious tendencies of a radical spring warmth mixed with the vagaries of an obstinate liver."

By the time that such a fruit is relished and required the Florida crop is gone, and Southern California ships her oranges to the East, where their merits command good prices. These markets are being extended yearly, and the demand is greater than the supply.

On the other hand, there is no competition between the orange-growers of the northern and southern parts of the State. The former have ample markets which they can reach and control with their earlier fruit, it being a fact that oranges ripen sooner in Northern than Southern California. One region supplements the work of the other.

While well-defined belts have been ascertained within which the orange thrives best, it must not be inferred that all land susceptible of orange culture is thus used at present. Much land thus situated has never been planted. The opportunities for making money in raising fine oranges have by no means been entirely improved, and somewhat over sixty thousand orange trees cannot bear enough fruit to supply a demand that increases faster than the productive capacity.

**The Lemon.**—Following closely in the footsteps of the orange comes the lemon. Until California proved her adaptability to this fruit the world was sparingly supplied from orchards frequently cultivated indifferently, and at a great expense.

The lemon is more delicate than the orange, and the limits of profitable culture are more circumscribed. This State contains, however, some of the finest lemon land in the world. Intelligent cultivation has produced fruit of the best quality, while experiments have originated new varieties of great merit.

The curing of the lemon is an important feature, and much time and study have been devoted to this part of the business. The problem has been solved satisfactorily. The orchardist using ordinary intelligence, supplemented by the valuable reports of the State Board of Horticulture, need fear no trouble.



**Other Citrus Fruits.**—The lime is another member of the citrus family which, while more tender than the lemon, grows well and bears abundantly in many sheltered places in California. This fruit has not been cultivated as extensively as its merits justify, and the local market is now almost entirely supplied with inferior wild fruit from Mexico.

Prepared lime juice, when properly made, is excellent. The market has no limit.

The citron of commerce is one of the newer candidates for popular favor. The successes in the orange and lemon induced horticulturists, located in the milder portions of the citrus districts, to experiment with this fruit, which is extremely easy of culture. The results obtained are most satisfactory, not only regarding the adaptability of California climate to the citron, but also in the abundance of yield, size and quality of the fruit, and the superior grade of citron peel produced. There is nothing difficult in any of the processes. The best results are obtained by budding the citron on orange trees. As this fruit is sensitive to frost it will be restricted to the more equable sections of the State, but there are an abundance of such.

The "Grape Fruit" (Pomelo) and others not mentioned of the citrus varieties have not been grown to any extent in California, but where tried have proved the adaptability of California soil and climate to their abundant production.

In citrus culture as in other things California is a young State. She has successfully passed the experimental period of her existence. Those who have conducted these trials have been earnest and attentive. Each step has been carefully studied. Every condition has been intelligently investigated. Fortunes have been expended in preliminary work. All the important problems have been solved successfully and for all time. The results of all these trials and successes are on record, where they may be consulted by whoever may desire to do so.

**The Prune**, which is a variety of plum, will thrive wherever that tree does well, although there are localities particularly adapted to it. It is a prolific and certain bearer. When the trees are properly attended to some fruit may be gathered the third year. The crop increases rapidly until, when the tree is in full bearing, about the seventh year, from 150 to 300 pounds of green fruit per tree will be obtained. In Santa Clara County the average on old trees is 300 pounds. In some cases this has been increased to 600 and 800 pounds to each tree. One six-year-old tree in Visalia has been credited with producing 1,102 pounds of green fruit in one season.

Considerable skill is required in properly curing the prune. The important processes require care in order to produce the best results. The drying is all done out-of-doors in the sun. The fruit, which is allowed to ripen fully on the tree in order that its rich flavor may be developed after being graded or sorted to sizes, is dipped in lye to soften the skin for the purpose of facilitating drying. It is then washed thoroughly in cold water to remove every



trace of the lye. The fruit is then spread evenly on trays usually about two by three feet in size. These are placed on the ground where they will receive the full effect of the sun's rays. In some orchards ten thousand of these trays are on the ground at one time, covering over twenty acres of land. The prunes are left for from a week to a month, the drying period being dependent upon the heat and the amount of humidity in the air. After drying, the fruit is placed in bins to "sweat," which process requires from two to three weeks, during which time the fruit must be shoveled over several times. The sweating gives the prunes their black, glossy appearance, and much of their plumpness.

The fruit is then immersed in boiling water, which effectually destroys any insect germs that may have gotten on the fruit during drying, and also softens the skin. In about three hours the fruit is dry enough to pack. Before doing this, however, it is again passed through a grader, and the several sizes of fruit are effectually sorted. The assorted prunes are then packed in boxes, or shipped in bags to be packed by the dealer.

The market for California prunes seems almost unlimited. They have met the French article in the Eastern markets, and command higher prices on account of their smaller seeds, greater amount of saccharine matter, and superior keeping qualities. The fruit is wholesome, and the consumption in the United States is constantly increasing.

**The Apricot.**—This delicious fruit grows in the more protected districts in the south of Europe, and almost all over the State of California, except in the higher mountain regions. What is a luxury abroad is so common to the Californian that he does not appreciate it at its true worth. In the last few years California producers have found that the apricot would stand shipment to the East under the improved shipping conditions now in vogue. Large quantities of the fruit are sent thither, and the product finds a ready market. The apricot dries well, and the agreeable flavor of the product causes it to be sought after.

**The Nectarine.**—The nectarine is another finely flavored fruit that grows well and makes a good article of merchandise, either ripe or dried. It should be more extensively cultivated. It thrives wherever the peach does well, and is cultivated in the same manner. Medical authorities have stated that this fruit is a specific preventative of scurvy, so that there will be a large demand for canned and dried nectarines among ship-owners.

**The Plum.**—The plum is the parent of the prune, which has been described at length. The two fruits shade into each other somewhat. The characteristics of the prune are its exceptional curing properties, richness in saccharine matter, and firmness of texture that admits of drying while in the sun or by artificial means without fermenting at the pits. The plums which have these features are called prunes. The others are plain plums, each kind



being designated by its own name. There are many of these, as the fruit does not come true to seed, and a great assortment of desirable kinds of plums has been originated in America in addition to the many that have been imported. The plum is an abundant bearer, and the choicer varieties of the fruit command good prices.

**Cherries.**—The cherries grown in California are much larger than the same varieties produced in the Eastern States or in Europe. The fruit is also much superior. The cherry grows in different parts of the State, and brings good prices either for shipping or canning. The largest cherry tree in the United States is in California. It was planted in 1853, and is now ten feet in circumference and eighty feet high. In 1891 it yielded three thousand pounds of fruit.

**The Fig.**—There are few handsomer trees than the fig, and scarcely any more prolific. To the people in the countries where they grow these trees are as important food supplies as is the banana to the inhabitants of the tropics. In the very dawn of our history the fig is mentioned. It is the first that has been recorded as of use to Adam.

The Jesuits introduced the fig into this State from Mexico and the peninsula of Lower California, where it also grows wild, as in Syria. The climate and soil were most congenial to this fruit, which bears from two to four crops in most parts of California.

For a long time this fruit was considered too delicate for shipment as far as New York, but with ever-improving methods of transportation it is becoming possible for people all over the United States to have the benefit of California fruits.



GRAPE-GROWING.

It is only within a few years that this State has produced the highest grade of dried figs. Those who fear competition are not lenient judges. Therefore, the following statement of the manner in which some of the products of this State have been received by those who have supplied the world with its finest dried figs is extremely valuable. W. C. Emmett,

United States Consul at Smyrna, writing to the Department of State under date of January 15, 1890, says :

“ A box of figs grown and packed in California reached here this autumn, and was inspected and universally praised by many dealers. In some instances it was impossible to persuade the parties that said figs were grown outside of the Aidin district ; in fact some went so far as to designate the orchard. Those who grasped



the full importance of this American enterprise predicted that Turkey's supremacy in the fig trade was waning."

**The Olive.**—There is probably no tree around which cluster as many pleasing historical associations as the olive. Adapting itself to most varied conditions of soil and climate, yielding abundant fruit when well cared for, and still surviving neglect and patiently rewarding good for evil, this tree has been known from early historic times in semi-tropic countries.

Little wonder, then, that when the Jesuits established their Missions in California they brought with them and planted in a land where, in many respects, the soil and climate are similar to those in Palestine, a tree that through all the ages has been so linked with the Christian religion. These thrifty old trees rustle their silvery leaves as they whisper of the labors of those patient pioneers of California.

But the olive is too valuable a tree to man, too important a wealth producer, to have no interests except such as are of an historic character,—to be nothing but a reminder of days that are gone. It occupies an important place in the affairs of the working world, and on this account it has been tested in most parts of California. The results of these experiments have been so satisfactory that already over eight thousand acres of land have been given it as a foothold. Many varieties have been introduced, and their adaptability tested under different conditions of soil and climate.

The first oil made in California was from fruit grown near the sea, and at a low elevation. Lately the orchards in the foothills of the Sierra Nevada have yielded oil. There will be a rivalry between both these and other localities in regard to the quality but not the purity of the oil produced.

Much of the oil imported to America as the best French product comes originally from Asia Minor, whence it is carried in skins on the backs of wabbling but patient camels. The oil from France is also largely adulterated with refined cotton-seed oil (sometimes not refined) that is sent from the Southern States. This cotton-seed oil is wholesome and tasteless, and is quite extensively used for cooking in New Orleans and other Southern cities. To this extent the adulterated article possesses the merit of not being unwholesome, although it does not have the other important merit of purity.

The business of pickling olives has thus far not become an important industry in California. As soon, however, as newly planted orchards come into bearing more attention will be paid to it. Thus far the producers of California olives and olive oil have not been able to supply the demands for their products even at higher prices than are paid for those imported. Olive orchards have been called surface gold mines. While the words were spoken of the ones around the Mediterranean, they are not less true when repeated in relation to the orchards of California.

**The Pear.**—The facts that pears ripen better off the tree and that they can be picked while hard led to this being the



first fruit generally shipped from California to Eastern markets. In the years before fruit shipments had reached any noticeable proportions a Californian, visiting in Boston, was invited to a birthday dinner. One of the especial delicacies provided, partly in honor of the visitor, was pears from his own State. Courtesy prevented comment on a variety of fruit that would not be eaten where it grew. The pears were large and showy, and, on the ground that mammoth things were produced in the Golden State, were fair representatives. Otherwise they had no merits, being of poor flavor and of a coarse structure. At that time California shippers sent them "East" because they were sure they would arrive there without becoming soft. The same recommendation would have induced their shipment around the world on a sailing-vessel.

Some years ago one canning establishment introduced in a small way "pear syrup," a very agreeable compound for "hot cakes."

The pear thrives well at elevations of from about 2,600 to 2,700 feet above sea-level, although extensive orchards are located in the valleys. The northern counties of the State contain large areas of good pear land, and wherever the fruit has been cultivated it has proved of excellent quality. One of the oldest "Mission" pear orchards was located at Santa Clara. The country in that vicinity, constituting a part of the Santa Clara Valley, has become noted as a pear district. In fact fine orchards of this fruit are located almost all over the State, particular districts excelling in one or more especial varieties.

**The Peach.**—The first peaches produced in California, as far as known, were grown on the American River by A. P. Smith, and were sold in Sacramento by W. R. Strong for one dollar and a dollar and a half each. This was about forty years ago, in the very antiquity of the State's horticultural history. The dread diseases which have destroyed so many peach orchards in the Eastern States have been kept out of California by vigorous quarantine.

Much has been done in originating desirable new varieties, many of which are especially valuable on account of their lateness of ripening, some extending into October, thus in conjunction with the older early kinds greatly prolonging the producing and marketing season. In the peach the same conditions prevail that have been mentioned in connection with other fruits. They are good shippers, and have not only been sent throughout the Eastern States, but have been successfully transported to London.

The growth of the peach tree is phenomenal for size and thriftiness in all parts of the State. The mammoth dimensions of the fruit have become too well known to excite especial comment.

In many sections it is necessary with the peach, as with other fruits, to go over the orchards while the peaches are quite small, and "thin out" a part of the fruit. This occasionally extends to almost one-half. Otherwise the trees would bear so heavily that the weight of the crop would break every branch, as it is no uncommon sight in an orchard to see a handsome limb lying on the ground a victim of its own prolific production.



The peach was one of the first California fruits to be used extensively in canning. The size and flavor of the goods put up from orchards in various parts of the State have done much to establish a reputation for California canned fruits,—a reputation that unfortunately was taken advantage of by unscrupulous canners who in years gone by shipped much inferior fruit. This was a short-sighted piece of business enterprise that brought its own reward by financial disaster to those who practiced it. Eastern canners also were not too honest to profit by the reputation of California fruit, and put showy labels reading, "California Peaches," on a poor quality of Eastern fruit.

A peculiarity, attributed to climatic influences, has been noticed in regard to California peaches. They are not covered with as much "fuzz" as those grown in other sections. This is a particular advantage in the dried fruit.

Although nearly fifty-five thousand acres are being cultivated in peaches, but a beginning has been made in the industry. There are hundreds of thousands of acres of land well adapted to this fruit that are not improved. Although much has been done in shipping peaches, even sending them from the State by the train-load, it can hardly be said that they have been introduced into Eastern markets. Careful students of the problem of introducing California fruits into Eastern markets have shown that not over five million of the inhabitants of the United States have had an opportunity of using California fruit. One writer in 1892 affirms that peaches from this State were being retailed in New York at seven cents each. This price must necessarily cause them to be luxuries only for the tables of the rich. California can, and, when her productive capacity increases, will, send peaches all over the United States in such quantity that they can then, as here, be daily on the table of every laboring man.

**The Apple.**—As already intimated, the apple belt of California lies in the elevated portions of the Coast Range, in the higher foothills of the Sierra Nevada, and among the more elevated lands of Southern California. These are the sections where the finest apples are produced, but good ones are raised almost all over the State. The great apple region of the world extends along the Pacific Coast from far north of the Oregon line down into the peninsula of Lower California in Mexico. That this immense length of over one thousand miles has not produced more apples is owing to the fact that there have been so many things to do in this great virgin region that there have not been people enough to do them all.

One of the remarkable things about California apples is their keeping qualities. The same varieties are preserved from decay by natural means much longer than when grown in other localities. This comes from the action of the light and heat during the ripening season, and is a direct result of a dry summer. Hence California apples have been shipped profitably to Australia. The market for this fruit by sea extends to every seaport of the world. The shipments by rail are constantly increasing.



Comparatively little has been done thus far in improving the apple sections, for the simple reason that large sections lay remote from railroads. The building of branch lines is bringing large quantities of this land into accessibility. The lands are not solely adapted to the apple, but will yield abundant crops of all the hardier fruits, for which there are good markets.

**The Grape.**—Viticulture in California possesses many marked peculiarities to the visitor from the Eastern States; in fact the entire system pursued is strange to him. Even the grapes are such as he has not known. These are almost entirely of European varieties, which are too delicate to thrive in the Eastern States. In occasional cases some of the American varieties have been sparingly introduced, but generally they are not considered an important feature equal to the European kinds, and are not known to any considerable extent.

The American varieties are primarily derived from the different wild grapes of the Atlantic Coast and Mississippi Valley regions. Many of these possess, in a greater or less degree, the peculiar flavor of their wild progenitors.

While nearly all the European varieties bear larger bunches and larger berries than the American varieties, this is not always the case. Some of the finest wine grapes grow in small bunches, and have small berries. The grape from which the dried "currants" of commerce are made has small berries. Over three hundred distinct varieties of these grapes are grown in California, some experimentally, but the greater part in large quantities. All these, except one, were derived from Europe by means of roots or cuttings during comparatively recent years. The one exception is the Mission, a grape with a history but without a pedigree. It is the one which was introduced by the Mission Fathers,—hence its name. They brought it from Mexico, whence it is supposed it was originally imported from Spain.

The grape grows well almost everywhere in California, although the climatic features of particular districts render them better adapted than others to certain varieties. The warm foothill slopes are adapted to the table varieties. The berries and bunches grow large and luscious, and the yield is great, in many cases being over twenty pounds to the vine, and frequently more. Here, as elsewhere, the vines grow more in the nature of a sturdy dwarf tree from two to four feet high. In pruning, the branches are cut back to leave but two or three buds, from which the next year's bearing shoots are sent out. On some varieties these latter make a growth of twenty feet or more in the season. In these foothill districts the ripening period is not as long as in the great interior valleys or in Southern California. Rains come earlier, and occasional frosts, not severe enough to injure the vine, prevent the profitable making of raisins in large quantities by natural curing. In the lower foothills there is such a modification of climate, however, that some raisins of excellent quality are made. These would be considered large quantities anywhere except in California.



The great raisin districts of the State are located in the San Joaquin Valley, and in El Cajon Valley in San Diego County. The latter is a miniature counterpart of its great rival. In Los Angeles, Orange, Riverside and San Bernardino counties are also great raisin sections, possessing, in a modified degree, the climatic characteristics of the San Joaquin and El Cajon valleys. The high Coast Range shuts out the effect of the coast moisture and winds from the San Joaquin and El Cajon valleys.

Without the long, dry summer California would never have attained her place among the wheat, fruit and raisin producers of the world. With it she offers the greatest inducements, not only as a health resort, but as the greatest raisin district on earth. The grapes attain



FOOTHILL FRUIT-FARMING.

their fullest measure of ripeness, and the saccharine properties are developed to the highest degree. But were the season to end here, these advantages would not make good raisins. Grapes may be dried by artificial means, but nothing does the work so cheaply nor so well as the sun's rays. There is ample time for the thorough curing on trays between the rows of vines in the open vineyards. And while this process is going on a second crop, smaller, of course, but not less valuable, is ripening on the vines, to be sold for table grapes, to be made into wine, or for the manufacture of grape syrup, which will become an important industry.

The manufacture of wine is regulated by climatic peculiarities. Hot, dry climates develop the saccharine properties of the grape to excess. Such grapes make wine heavy in alcohol. Regions possessing this climate are naturally adapted for the making of ports, sherries and closely related wines. Lighter "dry" table wines are produced in sections where the heat is less intense and less prolonged, it being, of course, required to be sufficient to fully ripen the grape, but not enough to develop an overabundance of saccharine matter. The valleys lying near and opening upon the chain of bays tributary to San Francisco Bay, the valleys and slopes of the Coast Range, and lands similarly situated in Southern California, are the great centers for the production of table wines.

Some viticulturists manufacture wine themselves, while others gather their grapes and sell them direct to a neighboring winery. The latter is by far the better way for the grower working with small capital.

California wines of the better class have met with the greatest success, receiving, in direct competition with European wines, the highest awards. An interesting instance are the medals for greatest merit bestowed on specimens of wines from this State sent to the last Paris Exposition. No one was there to call attention to the little exhibit from several California vineyards. The wines had been



sent to the Exposition with but little hope that they would receive other than a passing honorable mention. The gold medals awarded them by the most celebrated experts surprised no one more than the makers of the wines in that modest display. From that recognition, and from the exhibit of California wines at the Columbian Exposition, French producers have admitted that in California they see a formidable rival. It has taken our producers years to learn the secrets of making the best wines. They are constantly learning and improving. One of the most celebrated wine-makers of the State spent years as a common laborer in the wine-cellar of Europe, learning by daily toil the methods of manufacturing champagne. The schooling was hard, and by no means pleasant, but, persistently persevered in, has produced one of the most expert wine-makers of the world.

**The Quince.**—It is supposed that the Mission Fathers introduced the quince into California; as mention of it is found in their records. The quince grows well wherever the apple and pear thrive. The fruit is exceptionally large, and meets a good market. Almost every horticulturist has a few trees, the fruit being highly esteemed for jellies and preserves.

**The Pomegranate.**—The pomegranate is an abundant fruit in California, though not marketed to the extent of many others. The tree is ornamental, and bears a wealth of beautiful flowers. The fruit is also very handsome, and is filled with small seeds, each covered with a juicy, delicious pulp. The pomegranate does not resemble any other fruit. Its mild and refreshing acid is most agreeable to those who are recovering from illness. To the fever patient there is scarcely anything so gratifying as a dish of this fruit. The outer beautiful colored covering is removed and the pulp seeds divided from the greenish white "partitions." As soon as the fruit becomes better known through the Eastern States the demand for it will be very great. It can be kept for months after gathering.

**The Persimmon.**—The Japanese persimmon, of which there are many varieties, differing in shape, size and flavor, is larger and more delicious than the persimmon of the Mississippi Valley. The fruit ripens late, and if picked while hard may be shipped long distances. It is constantly advancing in favor. It thrives well in the milder parts of the State, and has proved a great bearer.

**The Loquat.**—Another valuable fruit imported from Japan is the loquat. This is the first fruit in market, its season being from the first of February to the first of May, and brings a good price. The tree is a handsome evergreen, which grows to a height of from twenty to thirty feet, and bears large quantities of a yellowish, oblong fruit the size of a small plum, which is of a pleasant acid flavor. This is highly esteemed as a table fruit and for jelly.



**The Guava.**—The guava is cultivated in the southern part of the State, and wherever the climate is mild the yield is large. Little bushes hardly a foot high are covered with fruit. This early bearing makes it a splendid thing to raise for "immediate returns," while it must not be ignored as a profitable fruit after that which comes into bearing later has begun to make the bank account larger. The fruit is eaten fresh, preserved and canned. The strong point of the guava, however, as it is too delicate to ship long distances, is as a jelly producer. Guava jelly is highly esteemed for flavor and richness. The fruit is produced on a sticky bush, planted about from four to eight feet apart, so that a large number of them can be put in an acre. The fruit begins to ripen about the first of September, and continues bearing till midwinter. The yield is enormous. The strawberry guava has a dark purple skin, and a red flesh filled with small seeds with a light strawberry flavor. The lemon guava is a pale yellow with a trace of lemon flavor.

**Pineapples and Bananas.**—Pineapples and bananas are grown in the more sheltered parts of Southern California, but not extensively as yet. These are both fruits of the tropics, and it is problematical whether their culture in this State will be more than trifling. Still, experience has upset so many apparently well-founded surmises in regard to other fruits, that it would be reckless to say that California may not also in time be noted for her pineapples and bananas, both of which are easy to cultivate, and both of which grow well in proper situations.

**The Date.**—The date has been grown in California from the State's earliest horticultural times. A few years ago the Department of Agriculture imported some of the finer varieties, male and female trees, from Arabia. A part of them were sent to this State for cultivation. There are many localities where this fruit will grow well, and the dates already produced indicate that the fruit is good. In time this will no doubt be an important industry.

**The Pecan.**—This nut has not been cultivated extensively in California, though experiments with it have been tried in several sections of the State. Wherever it has been planted in deep rich soil, with a warm exposure, the pecan has done remarkably well. There seems no reason why this nut should not become an important product.

**The Almond.**—The culture of the almond has not received in California the attention that it deserves. This has been owing principally to the fact that the trees originally planted were of the Languedoc variety, which did not prove in our climate a profitable bearer. The new California seedlings, above referred to, have taken its place, and, having proved their worth, have caused the putting out of large orchards.



The almond is an extremely easy fruit to raise. The tree will get along with less close attention than many other fruit producers, but, like all, it appreciates good treatment, and proves it by bearing more nuts. There are no mysteries about gathering or curing the crop. The tree bears early, and, with the reliable California varieties and favorable conditions, the beginner may be sure of a well-paying crop. The trees at four years of age will generally produce, on an average, thirteen pounds of nuts to the tree. Twelve-year-old trees have borne one hundred pounds each.

The largest almond orchard in the world is in this State. Still, with this and numerous others producing the fruit, there is a demand larger than the supply.

There are three commercial grades of almonds,—the paper-shell, soft-shell and hard-shell. A great advantage of the California nuts over the imported lies in the fact that the kernel is smooth and plump. The confectioners, who are large consumers of the nut, appreciate this, and give California nuts the preference, in many cases paying a higher price for the superior American product.

The following table, compiled from the reports of the Treasury Department at Washington, shows the quantity in pounds and the value in dollars of almonds imported during the years mentioned :

1889	.....	5,454,489 lbs.	.....	\$712,187
1890	.....	7,497,193	“ .....	989,966
1891	.....	7,029,499	“ .....	995,764
1892	.....	6,261,023	“ .....	854,206

No one will for a moment suppose that there was a difference in consumption between 1891 and 1892 of 768,476 pounds. This shows the foothold that California almonds is getting in the American market. The table will also indicate that even that handsome amount is only a trifle over one-tenth the quantity of the importations.

**The Chestnut.**—The chestnut thrives remarkably well in this State in any situation where the walnut does well. The chief varieties cultivated are the Italian and Japanese. Both are large nuts, which grow to mammoth size, and possess fine flavor in California. The wild chestnut of the Eastern States has been grown but little more than experimentally.

**The Peanut.**—While introducing into the State the finest nuts of the world, and cultivating some of them most extensively, the lowly peanut has not been forgotten. Along the rich river bottoms, as well as in many other localities, large quantities of this nut have been grown. The nuts grow exceptionally large, with frequently three or four in each shell. In many sections the Chinese, who are as fond as the small boy of this nut, have grown the peanut vine in great quantities. It may not be out of place to explain to some readers that the peanut grows like the potato, and is gathered by pulling up the entire vine at the proper time and turning it over, with the thick mat of nuts exposed to the sun till they dry.



**The Walnut.**—One of the best informed authorities on this subject says:

“Walnut-growing is an industry that ranks very high in France, and which can be developed on the same scale in a State like California, if only we are wise enough to study the French method a little and do as they do, planting none but hardy kinds, and planting them on plateaux, hillsides, rolling lands, along railways, around large fields and vineyards, in cordons and avenues, on soils not well adapted to other crops, and where the walnut, in the course of time, will grow to gigantic dimensions.”

The chief great walnut orchards of Southern California are planted on rich valley land; and, while the yield is very heavy, the income, acre by acre, would, no doubt, be greater if oranges were cultivated on the land. In fact, some horticulturists grow orange trees between the walnuts until the latter trees attain such sizes as to necessitate the removal of the citrus trees. Walnuts are usually planted forty feet apart, as the trees grow to great size. Trees twenty years old often have a spread of branches of fifty feet. The system of planting the orange and walnut together is possessed of great merit in some sections.

The propagating of the walnut from seed has been the means of originating a number of desirable varieties. Soft-shell walnuts have been obtained. These, in proper locations, begin bearing the fourth year from the seed. Six-year-old trees have averaged fifty pounds of nuts to the tree, many trees yielding seventy-five pounds. At seven years the average yield increases to ninety-six pounds. The eighth year the average per tree is one hundred and twenty-five pounds, and some of the larger trees each produce twenty-five pounds of nuts above the average. Very old walnut trees in Southern California yield annually thirty dollars' worth of nuts, in some cases even more.

**Black Walnuts.**—The Eastern black walnut has been grown by a few horticulturists as a matter of experiment, and with good results. The nut is not generally desired, as the imported walnuts are preferred. There are native black walnuts in different parts of the State, but they have no commercial value. The young trees are, however, sometimes used for grafting on the more delicate European walnuts. The results from this process are satisfactory.

Other varieties of nut-bearing trees are grown experimentally, and in time, no doubt, some of them will be cultivated extensively, as California horticulturists, like the Greeks of old, are always looking for some new thing in order that they may carefully test and prove its adaptation to their State.

**Hazel-nuts and Filberts.**—Hazel-nuts grow wild in a great part of Northern California, and fruit heavily. The nuts, however, are inferior. The better grades of cultivated nuts have been introduced, and, in some cases, have been grafted into the



native trees. The results have been satisfactory. The large filberts of Europe and Persia have been grown to a small extent. The industry is in its infancy.

**Berries.**—All varieties of berries and small fruits grow well and bear abundantly in California. Large and luscious strawberries are shipped to San Francisco by the ton. A large portion of these comes from Santa Clara County. The bearing season continues for many months, and might easily be prolonged did not the abundance of other fruits crowd the strawberry to one side; and it is neglected after bearing for seven or eight months.

Raspberries, like strawberries, are grown throughout a great part of the State. The larger European varieties have been introduced. In the foothills of the Sierra Nevada the fruit is large, rich flavored and meaty. The last characteristic makes the berries good shippers,—reaching their destination without being bruised, and in excellent condition.

The blackberry is also a profuse bearer, and is largely grown in different parts of the State. The fruit is also used in great quantities for canning.

Gooseberries bear abundantly. On an acre of ground, used as a nursery, one horticulturist has cleared \$1,380 in a year raising gooseberry plants.

Currants are grown in many parts of California, and yield well. These, like the berries mentioned, are frequently grown between the rows of fruit trees. As they commence to bear earlier, they bring in an income almost immediately.

Many comfortable fortunes have been made by the raisers of berries. There is hardly an orchard where nearly, if not quite, all the varieties mentioned will not be found. In some, other less known kinds are being raised on a small scale or experimentally. The home demand for these fruits is enormous; but, owing to their reaching the different markets by various channels, it is impossible to procure any reliable information of the quantity produced.

**Silk.**—It has been proved that there are few if any countries better adapted to sericulture than this State. The mulberry grows well, and its leaves contain a high percentage of the elements which give strength to the silk. The worms thrive and are healthy, and the absence of thunder-storms, so fatal to them in many sections, is an added advantage which California possesses.

Unlike horticulture or viticulture, the rearing of silk-worms may not be made a sole source of revenue, but each farmer can grow a few trees, and his wife and children will find their care a pleasant occupation.

An effort was made to establish this industry in 1883, a former movement in this direction having failed, when a State Board of Silk Culture was authorized, and funds for its use appropriated. This Board consisted of four men and four women, among whom were some of the most competent students of sericulture in the State. A



good beginning was made, but almost from the start discord entered, when there should have been harmony. The work of the Board was constantly handicapped, and instead of taking its proper place in the development of an important industry, as was done by the Boards of Viticulture, Horticulture and Mining, the silk-culture infant came very nearly being strangled by too much and injudicious nursing.

The mulberry grows well almost everywhere, and bears an abundance of fruit, which is not, however, generally used, although there seems no good reason why it should not be. The trees are used either for ornament, or to produce leaves for the feeding of silk worms.

**Hops.**—Hop-raising is an important industry in California, averaging six and one-half million pounds annually. The pioneer hop-grower of the State says: "The mind of an Eastern hop-grower, where it takes three years from the planting to get a full crop, and then only from five to eight hundred pounds to the acre, is hardly prepared to comprehend that we grow two thousand pounds to the acre the first year the roots are planted."

The hop-lands are chiefly along river bottoms, where no irrigation is required. Such lands can be bought at from one hundred dollars to four hundred dollars per acre, or can be leased for a term of years for from twenty dollars to thirty dollars per acre. There is an abundance of land suitable to this crop, and California possesses many advantages in this industry not found elsewhere. The yield is large, and the harvest time is free from rain, wind or frost. The pickers can live out-of-doors while gathering the crop. There are no diseases to increase the cost of production or to decrease the value of the output.

The large American variety is the one principally cultivated; planting takes place in January and February; tying the vines to the poles begins from the first to the tenth of May; picking begins about August 20th and continues from four to six weeks.

Three modes of training are followed. The trellis system is coming into use to a great extent, especially where large crops, say two to three thousand pounds per acre, are produced. This system costs from \$1.00 to \$1.25 per acre, with an annual cost of about



SAN FERNANDO PALMS.



\$5.00 per acre for twine. The problem of labor during picking time has been one that has puzzled hop-growers. Chinese, Indians and Japanese are employed. White men, women and children make good pickers, earning from \$1.00 to \$2.50 per day, according to the condition of the crop and their exertions.

The soil is not generally fertilized, but leading hop-raisers incline to the idea that some return should be made to the land, in order that its fertility may not ultimately be impaired.

**Corn.**—California does not claim to be a corn State in the sense in which Nebraska is. The corn production is very large, but is entirely eclipsed in quantity and value by so many other sources of wealth that Californians, in recounting their industrial advantages, are apt to forget corn, although it is raised extensively in almost every county of the State. It is a product for home consumption, and but little California corn is exported. On the rich lands of the southern San Joaquin, in parts of Southern California, and in other locations, corn grows to extraordinary height, being frequently found sixteen feet in length and each stalk well loaded with long, full ears.

**Egyptian Corn.**—A grain unknown east of the Rocky Mountains is Egyptian corn, which is extensively cultivated in many parts of California. The stalks grow to an average height of about five or six feet, each bearing a seed head containing hundreds of small, round, slightly flattened seeds, white or light brown, according to the variety. This seed is used for fattening poultry and other purposes. The yield per acre is very heavy. The stalks are used for fodder.

**Broom Corn.**—Broom corn is raised extensively, and the industry of making new brooms that will sweep clean is not confined to political conventions, but is practiced in an humbler way in every city. The output and consumption is considerable, but there is plenty of money to be made in cultivating broom corn, which grows well and yields abundantly.

**Milletts.**—Several varieties of millets are grown, chiefly as forage plants, but not extensively. These possess great merit.

**Alfalfa.**—Alfalfa or lucerne is a plant admirably adapted to California, and is grown very extensively along the river bottoms and on irrigated land, where it is cut from three to five times a year, and yields from five to eight, and frequently fifteen, tons of excellent hay per acre annually.

Alfalfa belongs to the clover family. The root growth is surprising, instances having been found where the tap root reached a length of twelve feet. The plant thrives best in a moist soil, and in such locations yields its richest harvest. After the roots have become established it is very tenacious of life. Hogs are frequently turned into an alfalfa patch after the crop has been



cut. Their rooting is beneficial to the plant, while they fatten rapidly on the roots they eat. Stock is also pastured on the alfalfa after the mowing. Some prefer to use the field chiefly for pasturage. They then divide it into say four sections by fences. The stock is allowed to run in these in rotation and have a constant supply of green feed. Where alfalfa is grown for dairying purposes this is the custom.

When cut for hay the crop is harvested while the alfalfa is in bloom. The stalks are then tender and succulent, and the leaves do not drop off during curing and baling.

For shipping, the hay is all baled, but for home use is taken direct from the stack. In traveling through the lower San Joaquin Valley, the tourist from the car windows sees long stacks of alfalfa hay, which evince the fertility of the soil.

Many horticulturists maintain little patches of alfalfa, which they use for pasturage and hay for their own stock. A small piece of land is sufficient for the purpose, as there is no forage plant that produces so heavy a yield.

There is a great field of industry in raising hogs on alfalfa land. There are stretches where land can be bought at fifty dollars per acre, part of which can be devoted to alfalfa, and part to corn, which is used for hardening the flesh.

**Oats.**—When the gold-seekers came to California they found her hill-slopes and valleys covered with a rich growth of wild oats, among which fed immense herds of wild cattle, wild horses, deer and elk. The advance of agriculture has crowded out, to a great extent, this native forage plant, which, however, still grows in rank abundance wherever permitted. It makes excellent hay, but is commonly used for pasturage.

Right here it may not be out of place to mention a fact in regard to summer pasturage. People accustomed to seeing green stretches of timothy and clover, which, by the way, abound in the higher mountain valleys, looking over the brown valleys and hill-sides of California in summer, are impressed with the idea that they afford no pasturage. As a matter of fact, this is of the best. Stock are not eating green and immature vegetation, but natural hay, cured by Nature's processes,—hay, sweet and rich in flesh-producing qualities. Stock grow fat on this dry feed.

While the cultivated oats are not grown as extensively as wheat and barley, still a large aggregate acreage is devoted to this grain, much of which is made into hay.

**Rye.**—Rye is not extensively grown in California, although in many localities the growth and yield are enormous.

**Barley.**—Barley was one of the first grains to be cultivated in California. While wheat and flour were being imported into the State, barley was becoming an industry. Farmers had an idea that the long, dry summer would not permit wheat-growing. They had not learned when to plant, and were endeavoring to pursue a



course of winter and spring seeding. Barley would stand this, and so, proving more successful, was earlier raised. Experience brought into use the system of summer fallowing, and now the bulk of the grain is planted during the fall in dry ground, where it lies awaiting the first rains to start its growth. By this method every drop of water is useful to promote growth, and, except in some cases where the early rains that start the grain are followed by a too long period of dryness, which does not frequently happen, the crops are most satisfactory. In even these less adverse cases there is little more than a diminution of the yield.

Barley is cultivated extensively, and in some sections where but little attention is paid to wheat. The grain is used as feed for stock, sold for brewing purposes, and in many cases cut before ripeness, and makes the celebrated barley hay. Such hay sells well, as it is very nutritious, and the large percentage of seed makes the feeding of grain in addition almost, if not quite, unnecessary. With a yield of 12,333,000 bushels of this grain in 1892, California keeps up her record as the leading barley-producing State of the Union. The quality of California barley for brewing is admitted, and beside the heavy export of the grain for this purpose, local breweries use an enormous quantity annually.

**Grain-raising.**—It is a remarkable point in connection with the development of California industries, that a new source of wealth does not supplant an older established one. While grain-raising has ceased to become the chief industry of California, being distanced as a wealth-giver by fruit, it still holds its own, and the return from it is as great as before horticulture came into prominence. We did not stop raising wheat that we might set out fruit trees. While many fields were changed to more productive orchards, others were planted that have kept up the average production. The wheat fields of California occupy more space than the State of Indiana. Large areas of the State will probably for all time be devoted to wheat; and while, in time, the gross exports may be lessened, and the wheat-grower may find it injudicious to compete with India, Australia, South America and other coming wheat-producers, he will find his market at home. The horticulturist, manufacturer and laborer will furnish him a home market more satisfactory than any other. Still it will be a long time before consumers in Europe will willingly relinquish their demands for California wheat and flour. There was a time, not long ago, when but little flour was shipped from the State; but a great manufacturing interest in that direction has been built up at home.

The climatic condition, which has already been referred to as the means of making it possible to produce raisins, exercises a marked influence on grain-raising in California. The long, dry summer has caused the invention of the combined harvester, and this has materially lessened the cost of wheat production. The grain is allowed to fully ripen in the field, and is then at one operation cut, threshed and sacked with a rapidity little less than that of a prairie fire. The sacks of grain are stacked in the field, where they remain



uncovered for months, until the farmer has the time to haul them to a shipping point. Along the railroad tracks stacks of wheat sacks extend for miles awaiting shipment. Did California have summer rains, this could not be.

The wheat crop of 1892 was 38,554,000 bushels; of this, 10,767,567 centals (17,945,945 bushels), valued at \$16,332,225, was exported. The flour exports amounted to 1,166,409 barrels, valued at \$4,918,597.

**Canary Seed.**—Canary seed is grown by the ton in many sections, but like many other industries that can be extended almost without limit, and which would be considered leading sources of wealth in any other State, it is merely a side issue here. When we consider the number of canaries enjoying captivity, and displaying their sportiveness by throwing out of the seed cup more than they eat, it will be apparent at a glance that there is a big market for these little seeds.

**Wool.**—Nearly 963,000,000 pounds of wool have been produced in California since 1854, when the output amounted to but 195,000 pounds. But two States exceed in annual clip the amount of wool grown in this State.

The principal wool-producing counties are Humboldt, Mendocino, Tehama, Butte, Sacramento, Calaveras, Merced, Kern and Los Angeles. A glance at the map will show how far apart these sections are. The intervening country and much other can be similarly used.

Less individual attention has during recent years been given by sheep-owners to their flocks than formerly; hence the wool product has for a number of years not been as large as was formerly the case. Another factor in this matter has been the conversion of sheep ranges to agricultural and horticultural purposes without establishing new ranges.

In its annual report for 1891, the California State Agricultural Society makes the following statement :

“ It is a conceded fact that land valued at over \$5 per acre is too valuable for sheep-raising ; but we have yet thousands of acres not adapted for any other use than grazing, or which by remoteness from market cannot be farmed with profit, but could be put to a most profitable use in this industry. We know of no better opening for investment of capital by a steady-going, thrifty people than that of sheep husbandry. With the proper care and attention, it will make better returns for the amount invested than almost any other branch of industry.”

At the present time perhaps the most successful sheep-men in California are a small colony of French in Kern County. They pay the closest attention to their flocks, and by keeping them healthy get more and better wool.

In another place we have spoken of alfalfa as a pasturage plant. There is no reason why a good return may not be made for lands planted to alfalfa when used for sheep pasture.



Mutton brings a good price, and by proper breeding the flocks may be kept of high grade. It is estimated that there are about six million sheep in California. Most of them are driven to the mountains during the summer months, and brought back to the valleys by the shepherds in September, after the grain is harvested. The sheep are then turned on the stubble. They are later driven to the low foothills for spring feed. The sheep, which are principally

Merinos, are sheared in the spring and fall, yielding in the two clips an average of eight pounds of unwashed wool to the sheep annually. Each sheep produces a net income of a dollar a year. Those sold for mutton bring from two to five dollars per head.

The higher grades of mutton sheep are not profitable. The settling up of the country will change this, as farmers having alfalfa patches will keep a few high-grade sheep for their own use, and will derive an added income from such as they have to sell.



A CALIFORNIA OSTRICH.

**Poultry.**—The United States by no means produces as many eggs as it uses; neither does California. Poultry does well, but generally is raised simply for home use, and not much is done in this as a special business, although the investment need be of but a small

sum; and with care and attention the income is certain and satisfactory. Good land for the purpose may be bought cheaply, and feed is not high, and can be grown by the poultry-raiser himself.

The average price received for eggs by the producer is twenty-five cents per dozen. One poultry-man figures that each dozen of eggs cost him eight cents.

**Vegetables, Seeds and Flowers.**—California is in the fullest sense of the term a vegetable State. The markets of all the principal cities are constantly supplied with a profusion and variety of garden products that are bewildering to the Eastern or European visitor. The seasons seem set at defiance, and Thanksgiving and Christmas dinners are supplied with practically the same vegetables that were in market in the early spring. In many parts of the State the tomato is a perennial plant, bearing abundantly every month in the year. Cucumbers and asparagus vie with each



other, both in earliness and duration in market. Many vegetables that are rarely if ever met with in Eastern markets are common with us. A lover of vegetables can have on his table in San Francisco several kinds, with an ever-varying variety for every day of the year, and can daily get each fresh from the ground.

In recent years the raising of vegetables for export has become an important industry. The time will come when the more delicate kind will be shipped as fruit is now; then New York, Boston and Chicago can have green peas, lettuce, and dozens of other delicate vegetables, on their tables after a day's sleighing. As it is this State ships enormous quantities of potatoes, cabbages and the hardier vegetables, not only by train, but also by water, to Mexico and Central America.

In 1891 the single county of Ventura shipped eighteen hundred carloads of beans.

In addition to the raising of vegetables for market, the cultivation of them for seed purposes is an important industry in some parts of California. The climate of California is most favorable to this industry. Eastern seed dealers have learned that California grown seeds are superior, and the business is on the increase.

As might be expected in a State of so great floral wealth, some little attention has been paid to the production of flower seeds and bulbs. Eastern florists are beginning to announce certain strains of flower seeds as having come from California. For years the seed of native California flowers, as for instance the *Eschscholtzia*, have been advertised in Eastern and Trans-Atlantic seed catalogues.

One man in the State is engaged in the business of gathering and propagating California native bulbs, of which there are a great many of merit. Others have done more or less in the line of California tree seeds.

The cultivation of flowers as a commercial venture has been carried to a high degree of perfection, and the shipment of cut flowers to Eastern cities at a time when they will bring good prices is feasible, and has been done to a slight extent. The time will come when New York, Boston, Philadelphia, Washington and Chicago will receive California roses, pelargoniums, and hundreds of other blossoms, by the carload.

**Dairying.**—Dairying is a good industry in California, and one in which there are favorable openings for the man of experience and a little money, as he can prosecute his business during the entire year. He can select from a number of locations one that will best suit his taste. He can use natural pasturage among the valleys and hill-slopes of the Coast Range and Sierra Nevada, or he may choose a location in the valleys, and by growing alfalfa provide himself with constant green feed for the cows.

There are several cheese factories in the State, and their product sells readily, being of high grade.

Much money is made in shipping milk to San Francisco and other cities.



**Beet Sugar.**—In 1892 California produced twenty-two million pounds of beet sugar (more than double the amount made during the previous year). The annual consumption of sugar in the United States is 3,575,000,000 pounds. The Pacific Coast uses 180,000,000 pounds of sugar annually. The yearly consumption of sugar per capita in the United States in 1892 was fifty-five pounds; on the Pacific Coast, seventy pounds.

The above statistical items will show at a glance that there is a market for sugar; and, as the annual consumption per capita has increased from twenty-six pounds in 1851 to fifty-five pounds in 1892, it is fair to presume that the market will continue good.

Hence, the opening for factories to manufacture beet sugar in California is almost unlimited. An expert on the subject, who is engaged in the business, estimates that there is an opening for three hundred beet sugar factories with a capacity of six hundred tons of beets per day.

There is also money for the man who will raise the beets. They do well in large sections of Southern California and in many other parts of the State. Beets yield, on an average, fifteen tons per acre. The average cost of production is twenty-five dollars per acre, and the average net profit is fifty dollars per acre. The introduction of labor-saving machines will reduce the cost of production materially. Beet lands can be bought at reasonable prices.

**Bees.**—Southern California is the paradise of the bee-men, who annually ship millions of pounds of the finest honey in the world. The flowers, which continue the year through, furnish a bountiful supply of material, and the bees are never idle. The white sage honey of Southern California has a wide reputation for delicacy and beautiful color.

The counties of Los Angeles, San Bernardino, San Diego, Ventura, Santa Barbara, Riverside and Orange are especially noted as honey producers, while others are by no means unimportant.

All over the mountain slopes there is a rank growth of native bee plants that gladden the heart of the apiarist, and you will find his "bee ranch" in many a Southern California canyon. His bees are free from diseases, and never complain of overwork. Unlike some of us, they make their business a pleasure, and it does not tire them.

**Perfumery.**—Every year the United States imports perfumery to the value of ten million five-cent loaves of bread. That is not the retail price, but the figure that the conscientious importers place upon the goods. This does not include half as much more for essential oils.

The processes of manufacture of these articles are not difficult. California climates are conducive to a profusion and almost annual supply of flowers. Many that are natives are possessed of delicate perfumes. There is not a sweet-scented flower cultivated in any part of the world but will do equally as well grown out-of-doors in California. Soil and climatic conditions for each may be found.



In the development of industries the one here mentioned has not passed beyond the experimental stage. Enough has been learned to demonstrate the special adaptability of this State to supply the perfumery and essential oils used in the Union, and to export to other lands articles of merit, whose purity and excellence will command markets.

This, like many things in California that have been overlooked in a prodigality of resources, awaits with rich returns the attention of competent workers.

**Licorice.**—During the eight months ending August 31st, 1893, the United States imported 1,337,775 pounds of licorice root,—more than six hundred and sixty-eight tons. This importation was worth more than half a million dollars more than the imports of this article for a similar period in the previous year.

The plant is of easy growth, and when once started yields an abundant crop.

This is one of the small things which may be developed into an important industry. That there is a market for the product is proved by the amount that the United States consumes.

The production of the root in large quantities will naturally lead to the establishment of places to manufacture the stick licorice of the drug stores. The demand will, if nothing else, keep step with the supply.

This plant may be grown between the fruit trees, and thereby increase the productive returns of each acre of land; or it may be grown for a time as yielding an earlier return, and afterward abandoned if desirable.

**Tobacco.**—Tobacco has been grown experimentally in different parts of the State. As the process of curing was not understood, the results have, in most cases, ended with the dried product. This has been pronounced by experts to be of good quality.

Many years ago some Kentuckians raised and shipped to the Louisville market three hogsheads of tobacco grown from Kentucky seed. This tobacco sold on merit alone for more than the home product.

Lately one grower has met with great success in producing an excellent quality of tobacco.

This can and will, in time, be made a most important industry. All the conditions are favorable to it. Now that Californians are branching off from the beaten paths of a few leading industries, this will be one that will receive its deserved amount of attention. Louisville exports much tobacco in the leaf. China is one of her markets. There is no reason why this State should not look after the Chinese trade, which requires a peculiar grade.

**Cotton.**—California has not generally been considered a cotton State, and yet the plant has been most successfully grown in very many localities. Kern County exhibited bales of cotton at the



World's Cotton Centennial Exposition in New Orleans in 1884-85, which was most favorably commented upon by local experts.

In many parts of the State the cotton plant is perennial. Excellent cotton has been gathered from a seven-year-old plant in San Diego County. Merced has yielded cotton in quantity.

The question of a market has been solved by the establishment of a cotton mills at Oakland. There is no reason why large areas of California should not be devoted to this crop.

The labor problem has interfered somewhat, but the matter of a home market has been a greater obstacle. In the Southern States machines to perform the difficult work of picking have been invented and tested. Therefore it would seem that means of gathering the crop will be provided by hand or power whenever the size of the crop demands extra efforts in that direction.

**Rice.**—There are in California large areas especially adapted to the cultivation of rice. In Colusa County some little work in this direction has been done. The lands in question are of phenomenal richness, and are much better adapted to this crop than any other. The natural process of land-building around the bays, sloughs and river channels has left large areas of land that not long since were covered with tules, and which are not yet quite far enough along for other crops, but are just suited to rice-growing.

**Tea.**—Tea has been experimentally grown in Placer County and in some other places. The shrub does well, and the product is satisfactory. It is an admitted fact that we never get the best grades of tea grown in China and Japan, and also that a sea voyage is detrimental. Therefore there seems to be no reason why this may not be made an industry of importance. The shrub is very ornamental. The farmer in many localities can produce his own tea if nothing more is done for the present. By careful management he may have a grade of the beverage that is reserved for the nobility in the home of the tea plant.

**Pampas Plumes.**—The industry of growing the beautiful pampas plume has become an important one in several parts of Southern California. The plant grows well nearly all over the State, but its propagation for commercial purposes is thus far confined to the southern part of the State.

**Ramie.**—Ramie has been tested in most sections of the State and gives two or three crops a year. The fiber is long, and when properly separated from its covering is as beautiful as silk.

**Hemp and Flax.**—Hemp and flax grow well in the State, but thus far comparatively little has been done with them more than experimentally.

**Ostrich Farms.**—There are several ostrich farms in Southern California. The birds thrive and yield a good supply of their feathers. The tourist seldom fails to visit one of these places.



## Mines, etc.

California has not lost her importance as a mining State, but yearly continues to add about ten million dollars in gold to the supply of that metal.

She is rich in a great variety of useful minerals, nearly every county containing valuable deposits of different kinds, many of which are found nowhere else in the country.

The redwood forests of the State, the lordly sugar pines of the Sierra Nevada, and many other varieties of trees, have placed California foremost as a lumber-producing region.

The beauty of many of the woods for interior finish and ornamental purposes is generally recognized.

Quicksilver mining is an important industry. The mine at New Almaden has had a world-wide reputation. Other rich deposits are found north and south of the bay of San Francisco.

At one time there was quite a copper excitement in the State, but other regions have taken the lead. California contains much copper, but of late years little has been done in mining it, except in a few counties.

Antimony, which is produced nowhere else in the United States, is found in several California counties.

Valuable iron deposits exist in different parts of the State. Little has been done in developing them.

Borax is produced to the extent of fully eight million pounds annually. With but two exceptions, this mineral is not found elsewhere in the Union.

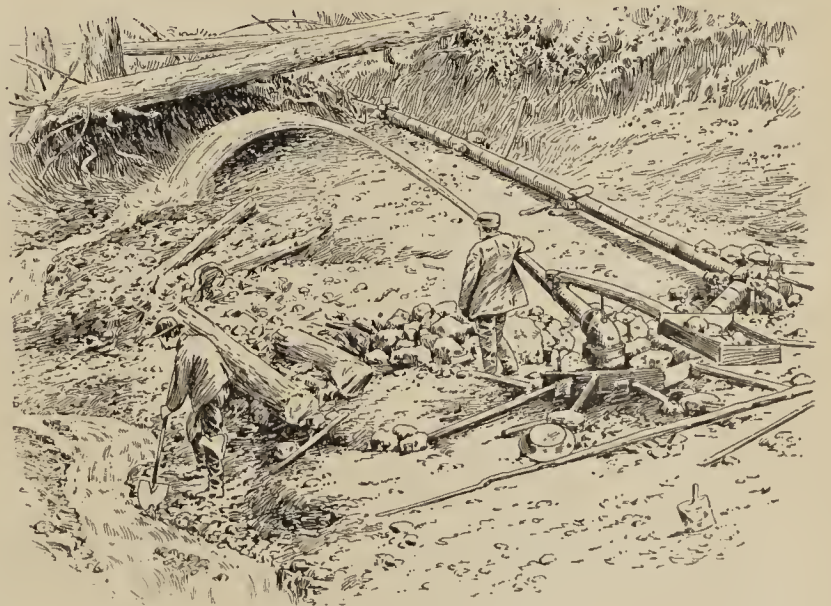
Petroleum is found extensively in the southern counties, and but two other States produce a larger amount than California.

Salt is manufactured from sea water in Alameda County. The output at Salton, on the Colorado Desert, is considerable. San Diego, Los Angeles, Marin and Colusa counties, obtaining supplies from saline springs, add still more to the output.

Sulphur, which is used in treating dried fruits, and on trees and vines, is found nearly pure in Lake, Kern and other counties.

Asbestos is found in several counties, especially in San Diego, where it is extensively mined and manufactured into fire-proof paint, boiler-covering compounds, etc.

Bituminous rock, heavily charged with asphaltum, is found abundantly and mined extensively. It is used for street paving.



HYDRAULIC MINING.



Asphaltum is produced only in this State. In places it is found nearly pure. The quality and abundance of the mineral will cause it to be much more extensively used and exported even than at present.

Coal is mined in several counties. No true anthracite has yet been found in California. The output of the mines is used for steam purposes.

Among other important California minerals may be mentioned alum, antimony, cement, chrome, graphite, gypsum, lead, lime, manganese, mineral paint, mica, nitrate of soda, ocher, platinum, pumice-stone, tin and others.

California is rich in building stones, including granite, sandstone, marble, onyx, slate, lime and cement.

The finest character of face brick and terra-cotta work is made at Lincoln, and elsewhere.

The growing of the pyrethrum plant, of which there are two varieties used in the manufacture of insect powder, is engaged in in Merced County and elsewhere. The Buhach of commerce is made from the flower heads of one variety grown in Merced County.

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## Educational Advantages.

The educational advantages in California are quite up to those of other localities in the land. We have good public and private schools in all parts of the State, and we have two superbly endowed universities.

Briefly summarized, the educational advantages of California are seen:

1. In the unprecedented liberality and absolute adequacy of its provision for a good free school, of not less than eight months annually, in every district of the State.

2. In the system which extends high school facilities to every corner of the commonwealth.

3. In the provision for excellent public school libraries in every district of the State.

4. In the economical and admirable provision for the supply of text-books to the pupils of the State.

5. In the generous provision for the instruction and training of teachers in normal schools and county institutes.

6. In the magnificent and richly endowed university at Berkeley, which crowns its educational structure.

7. In the completeness of its machinery for the effective administration, by proper officers, of its whole system.

8. In its university at Palo Alto, made great by private endowment, and in the high character and large number of its remaining colleges and private schools.

With these gifts in her hands California beckons to the dwellers in her sister States, and to the people of all enlightened nations, inviting them to settlement, citizenship and home.



## The Cost of Living in California.

Speaking in a general way of the cost of living in California, it may be safely affirmed that the necessities of life, and many of its luxuries, are to be obtained here at a rate as low, and in many cases lower, than in any other State in the Union. Flour ranges from \$3.50 to \$4.50 per barrel; beef, by the carcass, from four to six cents per pound; vegetables and fruits are abundant and cheap.

Almost everything for the table is cheaper in California than elsewhere, for the simple reason that the land produces abundantly. There is of course a difference in localities, as well as in the style in which one lives. The farmer who providently raises vegetables, chickens and hogs can make the cost of a well and variously supplied table very small. Even the mechanic in town or city, by buying judiciously, can live better, or at least as well, for less money than east of the Rockies.

Buildings can be constructed cheaply. The mildness of the climate obviates many expenses, such as large supplies of coal for winter; and houses are not especially constructed to keep out cold in winter and heat in summer.

In many places through the State the climate is such that settlers frequently live for a time, and sometimes all the year, in tents, until they feel able or have time to build houses. The large supplies of lumber, and the facility with which brick may be manufactured, are important factors in the matter of building, and, as has been already intimated, dwellings do not of necessity need to be cyclone proof.

The climate plays an important part in the expenses for wearing apparel. There is in most parts of the State little occasion for changes to spring, summer, fall and winter clothing. The same weight of wearing apparel in most parts of California is suitable at all seasons.

The farmer works in his shirt sleeves nearly the entire year round, needing a coat only in the cool early mornings of winter or spring.

Of course the cost of living at hotels and boarding houses varies here as well as elsewhere. For the former the rates range from \$1.50 per day upward, and for the latter from \$20.00 per month up to whatever one has the money or disposition to pay; and in the country one may live much cheaper than in the cities and towns.

At regular California restaurants there may be obtained what is called in the West a square meal, which includes soup, meat and vegetables, bread and butter, with tea, coffee or a glass of wine, for twenty-five cents.

There is a feature in the cost of living in California not generally recognized, but which enters very materially into the question: as far as the farmer is concerned he is not required to house his stock for six months of the year, and thereby saves not only a great deal of expense in laying in fodder, but the labor of taking care of his stock through the long winter months.



## California Midwinter Fair.

In many respects one of the most important events that has occurred in the history of San Francisco is the holding of the great Midwinter Exposition, which opened on January 1, 1894, to continue for six months.

The Exposition grounds are located in Golden Gate Park, one of the finest parks in the country,—one where the vegetation, both natural and introduced, grows with such profusion that the eye is not met at every turn with the sign, "Keep off the grass." The grass is there, and it is of such a healthy growth that people may step on it without crushing out its life. It is an every-day sight in the Park to watch children romping over the lawns and with perfect abandon rolling down the declivities. The approaches to the Exposition through the Park are lined with the choicest trees and plants from every clime.

What would be a large section of any other park has been set aside for the use of the Executive Committee of the Midwinter Fair. Here are located five principal buildings, arranged in a rectangle, in the center of which is an electric tower, fountains and beautifully grass-covered terraces.

The Administration Building, 60 by 40 feet, is at one end of the rectangle. This building is richly ornamented, and contains the principal offices of the Exposition, telegraph, messenger, railroad and other offices. An elevator conveys passengers to the second and third stories.

The Manufacturers and Liberal Arts Building, which is the main one of the Exposition, is 450 feet long by 200 feet wide. The architecture is Moorish.

The Mechanical Arts Building is 300 by 125 feet, with a gallery twenty-five feet wide around the interior of the building.

The Fine Arts and Decorative Arts Building is of brick in the Egyptian style of architecture, and is 120 feet long by 60 feet wide. The lighting is from above, and the largest amount of space for hanging pictures is secured.

The Agricultural and Horticultural Hall is 300 feet long by 125 feet wide. This is in the Mission style of architecture, and forms a very interesting exhibit in itself.

Many of the counties of the State have erected handsome buildings, in which they maintain distinctive displays of the varied products of their counties, thus demonstrating to the visitor the fact that in almost any county there is produced, profitably, nearly every product to be found in the entire State. In addition there are many buildings erected by foreign exhibitors, or those holding concessions.

The Midwinter Fair is not a warmed-over Columbian Exposition. It is something that a person can see and grasp, and not feel, after a few visits, that it is so vast that it cannot be comprehended.

It contains a selection of the best things exhibited at Chicago, and many more especially secured. It is the largest and most varied exhibition that has ever been gathered through the push and enterprise of an American city, without State or Governmental aid.





AGRICULTURAL AND HORTICULTURAL BUILDING, CALIFORNIA MIDWINTER INTERNATIONAL EXPOSITION.



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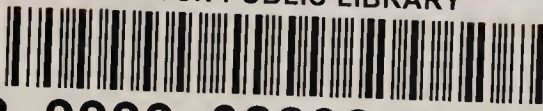
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